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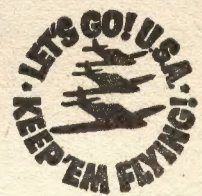
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ASTOUNDING

SCIENCE-FICTION

TITLE REGISTERED U. S. PATENT OFFICE

Contents for December, 1942, Vol. XXX, No. 4

John W. Campbell, Jr., Editor, Catherine Tarrant, Asst. Editor

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Cover by William Timmins

Illustrations by Fax, M. Isip, Kolliker, Kramer, Orban and Schneeman

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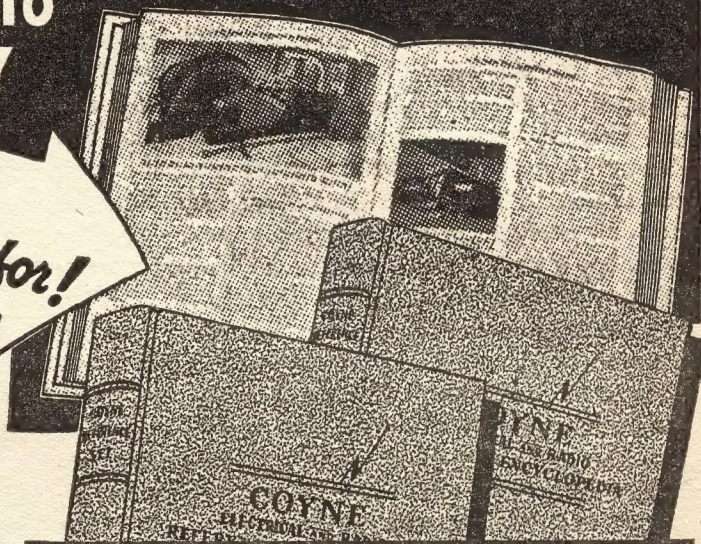
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POWER SUPPLY

Burning atoms for fuel is considerably closer to reality now than it appeared to be even four years ago—but direct use of atomic energy is not in sight. The distinction is this: present knowledge indicates that U-235 could be made to release atomic energy which in turn could be trapped in the form of high-intensity heat, and the heat made to boil water, the steam to turn an engine, and the electricity or other useful work performed in that way. If it happened that the desired energy form was simply heat—say for warming a tank of bath water—the atomic energy might fairly be said to be directly applied to the task. For anything else—including heating a house or an annealing furnace—the application is indirect, and atomic energy is being degraded, manipulated in a low-level form, and reworked into the desired type of power. Yes, houses are heated by steam—but that is essentially, an indirect and clumsy way of doing the job. The proper way would be to use electrically heated radiation areas: steam heating in houses is used to heat the air in the room, which heats the walls, and the walls then radiate the desired heat. If you don't quite believe it, remember that when heat is first turned on in the morning the air gets warm quickly enough, but there's a chill remaining in the house for three quarters of an hour or so. Only if walls are warm is the place comfortable.

Direct application of atomic energy would mean that apparatus be designed which would convert the energy of bursting atoms directly into electrical potential; that a machine directly converting bursting atoms into a rotating shaft's power be built. For that work, we do not as yet have even a glimmering of theory—save in special application for electric power under certain limited circumstances. Television sets as now designed use a viewing tube which requires a potential of from three thousand to fifty thousand volts, depending on the size. A 10,000-or-so-volt transformer around the home is an unpleasant gadget, not for the investigation of barnyard mechanics, which class constitutes about fifty percent of the American male population. Sets are designed with trick switches which lock off the power if the back cover of the cabinet is removed.

Atomic power offers a nice answer to that one; the tube doesn't need much current, and if still higher voltages were usable, it would need still less. It would be possible to synthesize a selected atomic isotope with a half life of, say, three years, which discharged electrons at a potential of one hundred fifty thousand volts. Mounted on an insulated column in a little hollow sphere, the bit of isotope would maintain a constant positive

potential with respect to the metal shell—a very useful 150 kilovolt dry cell, one that could be sealed inside the television tube itself.

There are a number of other super-sources for power that have been suggested by science and/or science-fiction. Solar power—cosmic ray energy—tidal power—wind power—the list is fairly extensive. Most of these lack one of the four essential features of a good power source in greater or less degree. A good source must have in reasonable degree both potential, quantity, continuity and availability. Unlimited potential and continuity of wind power, if found at the south pole, would not be particularly valuable. Cosmic rays have potential, all right—several hundred million volts intensity, so much they're uncontrollable. They're available anywhere—including mines fairly well underground. They're continuous. But the quantity is so slight that they're useless.

Sun power has quantity, availability, potential—and semi-continuity. The great trouble with sun power is that though it represents a high potential source—some 6000° Abs.—the dilution is pretty extensive, and the power must be made continuously available.

The solar motors, photoelectric cells, sun-cookers, and such rigs work fairly well—but not commercially. The area that must be covered to gather enough horsepower is too great. The huge investment in energy-gathering equipment can, furthermore, actually operate only half the time. The best system of sun-power use developed so far is the house-heating scheme M. I. T. engineers have been studying—a house equipped with a triple-layer glass roof under which is a blackened, heat-absorbing system of tubes that conduct sun-heated water into a huge, underground insulated storage reservoir. In the course of a summer, enough heat can be garnered and stored to heat the house all winter.

If and when men develop an efficient way of using low-potential energy sources, the problem of unlimited energy, costless, fuelless, totally and continuously available, is ended. Solar energy is so vast in total amount that any drains man might put on it would be completely undetectable; the trick we lack now is a method of using the already existent immense area of sun-energy absorber, the nicely designed absorber that acts also as a reservoir for the energy during the night when solar energy isn't available. Figure a way to turn the thermal energy of the Earth's atmosphere, and of its seas, into electric power directly, and there won't be any real need for atomic power plants here on Earth.

The Editor.

KNOW RADIO *as* Trained Technicians Know It

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Don't envy trained Radio Technicians and Operators because of their good pay, pleasant, steady work, bright peacetime future. Find out how **YOU** can train at home nights in spare time for the same Radio jobs!

Mail the Coupon. I will send you **FREE** my 64-page illustrated Book, **RICH REWARDS IN RADIO**. It's packed with Radio facts—interesting things you never knew about opportunities in Radio Servicing, Broadcasting, Manufacturing, other Radio fields. It describes many fascinating jobs which Radio offers; explains how N. R. I. teaches you—and gives you *practice*—with interesting, illustrated lessons and **SIX BIG KITS OF RADIO PARTS**.

Hundreds Learn Radio at Home Nights, Get Good Jobs

Yes, hundreds of N. R. I. trained Radio Technicians are in pleasant, well-paying Radio jobs. And today the opportunity for beginners is probably better than ever. The Radio repair business is booming because no new sets are being made—old sets must be serviced to last. Right now, probably in your own neighborhood, there's room for more spare and full time Radio Technicians!

Many spare time Technicians are stepping into **FULL** time Radio jobs. Many are starting their own shops—making \$30, \$40, \$50 a week. Others take good-pay positions with Broadcasting Stations. Many more are needed to fill Government jobs as Civilian Radio Operators, Technicians.

Radio Manufacturers rushing to fill Government wartime orders, need trained men. Aviation, Police, Commercial Radio and Loudspeaker Systems are live, growing fields. And think of the **NEW** jobs Television and other Radio developments will open after the war! I give you the Radio knowledge required for jobs in these fields.

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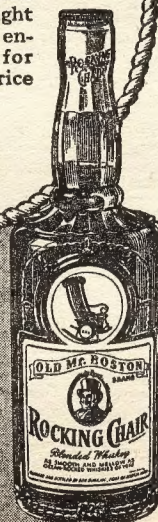


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**I was dizzy
as a dodo**



**But Liquor Shopping
Is Now a Cinch**
by don herold

There are too many labels in the liquor world. I used to be baffled by all those bottles.

Even the best of liquor companies ball you up because each one puts a lot of different brand names on his products.

Who makes what? And how good? And how much?

That's why I jumped with glee when I found I could say one name—"Old Mr. Boston"—in any liquor store and be dead sure of catching top-notch quality in almost any type of fine liquor I needed . . . and at a price that wouldn't tear the lining out of my wallet.

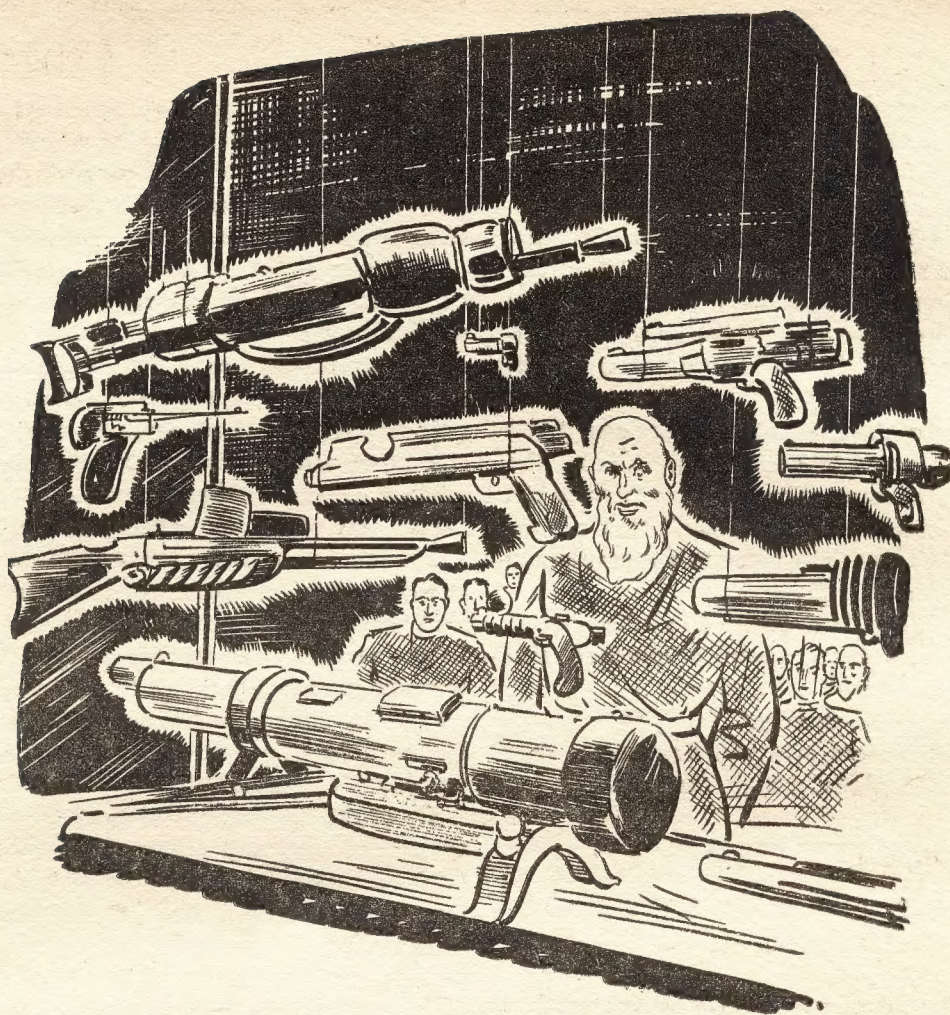
I've collected 35 bottles of Old Mr. Boston on my home bar—heart-warming Whiskeys, glorious Gins, brisk Brandies, rollicking Rums and a whole line-up of captivating Cordials and luscious Liqueurs.

World, meet my
friend, Old Mr.
Boston

And every drop in every Old Mr. Boston bottle sings with that craftsmanship which for over 300 years has been the just pride of good Old Boston Town.

You don't have to own a complete Old Mr. Boston home bar, right off, as I do.

Just start saying "Mr. Boston" to your dealer, and let Old Mr. Boston grow on you.



THE WEAPON SHOP

By A. E. van Vogt

● The Shop appeared from nowhere abruptly, a shop defying the law and the power of the empress. The old man tried to drive out the shop and its two keepers—a little task in which, though his credulous mind couldn't grasp it, all the might of the world Empire had failed!

Illustrated by Kolliker

The village at night made a curiously timeless picture. Fara walked contentedly beside his wife along the street. The air was like wine; and he was thinking dimly of the artist who had come up from Imperial City, and made what the telestats called—he remembered the phrase vividly—"a symbolic painting reminiscent of a scene in the electrical age of seven thousand years ago."

Fara believed that utterly. The street before

him with its weedless, automatically tended gardens, its shops set well back among the flowers, its perpetual hard, grassy sidewalks, and its street lamps that glowed from every pore of their structure—this was a restful paradise where time had stood still.

And it was like being a part of life that the great artist's picture of this quiet, peaceful scene before him was now in the collection of the em-

press herself. She had praised it, and naturally the thrice-blest artist had immediately and humbly begged her to accept it.

What a joy it must be to be able to offer personal homage to the glorious, the divine, the serenely gracious and lovely Innelda Isher, one thousand one hundred eightieth of her line.

As they walked, Fara half turned to his wife. In the dim light of the nearest street lamp, her kindly, still youthful face was almost lost in shadow. He murmured softly, instinctively muting his voice to harmonize with the pastel shades of night:

"She said—our empress said—that our little village of Glay seemed to her to have in it all the wholesomeness, the gentleness, that constitutes the finest qualities of her people. Wasn't that a wonderful thought, Creel? She must be a marvelously understanding woman. I—"

He stopped. They had come to a side street, and there was something about a hundred and fifty feet along it that—

"Look!" Fara said hoarsely.

He pointed with rigid arm and finger at a sign that glowed in the night, a sign that read:

FINE WEAPONS

THE RIGHT TO BUY WEAPONS IS THE RIGHT TO BE FREE

Fara had a strange, empty feeling as he stared at the blazing sign. He saw that other villagers were gathering. He said finally, huskily:

"I've heard of these shops. They're places of infamy, against which the government of the empress will act one of these days. They're built in hidden factories, and then transported whole to towns like ours and set up in gross defiance of property rights. That one wasn't there an hour ago."

Fara's face hardened. His voice had a harsh edge in it, as he said:

"Creel, go home."

Fara was surprised when Creel did not move off at once. All their married life, she had had a pleasing habit of obedience that had made cohabitation a wonderful thing. He saw that she was looking at him wide-eyed, and that it was a timid alarm that held her there. She said:

"Fara, what do you intend to do? You're not thinking of—"

"Go home!" Her fear brought out all the grim determination in his nature. "We're not going to let such a monstrous thing desecrate our village. Think of it"—his voice shivered before the appalling thought—"this fine, old-fashioned community, which we had resolved always to keep exactly as the empress has it in her picture gal-

lery, debauched now, ruined by this . . . this thing— But we won't have it; that's all there is to it."

Creel's voice came softly out of the half-darkness of the street corner, the timidity gone from it: "Don't do anything rash, Fara. Remember it is not the first new building to come into Glay—since the picture was painted."

Fara was silent. This was a quality of his wife of which he did not approve, this reminding him unnecessarily of unpleasant facts. He knew exactly what she meant. The gigantic, multitentacled corporation, Automatic Atomic Motor Repair Shops, Inc., had come in under the laws of the State with their flashy building, against the wishes of the village council—and had already taken half of Fara's repair business.

"That's different!" Fara growled finally. "In the first place people will discover in good time that these new automatic repairers do a poor job. In the second place its fair competition. But this weapon shop is a defiance of all the decencies that make life under the House of Isher such a joy. Look at the hypocritical sign: 'The right to buy weapons—' Aaaaahh!"

He broke off with: "Go home, Creel. We'll see to it that they sell no weapons in this town."

He watched the slender woman-shape move off into the shadows. She was halfway across the street when a thought occurred to Fara. He called:

"And if you see that son of ours hanging around some street corner, take him home. He's got to learn to stop staying out so late at night."

The shadowed figure of his wife did not turn; and after watching her for a moment moving along against the dim background of softly glowing street lights, Fara twisted on his heel, and walked swiftly toward the shop. The crowd was growing larger every minute, and the night pulsed with excited voices.

Beyond doubt, here was the biggest thing that had ever happened to the village of Glay.

The sign of the weapon shop was, he saw, a normal-illusion affair. No matter what his angle of view, he was always looking straight at it. When he paused finally in front of the great display window, the words had pressed back against the store front, and were staring unwinkingly down at him.

Fara sniffed once more at the meaning of the slogan, then forgot the simple thing. There was another sign in the window, which read:

THE FINEST ENERGY WEAPONS IN THE KNOWN UNIVERSE

A spark of interest struck fire inside Fara. He gazed at that brilliant display of guns, fascinated

in spite of himself. The weapons were of every size, ranging from tiny little finger pistols to express rifles. They were made of every one of the light, hard, ornamental substances: glittering glassein, the colorful but opaque Ordine plastic, viridescent magnésitic beryllium. And others.

It was the very deadly extent of the destructive display that brought a chill to Fara. So many weapons for the little village of Glay, where not more than two people to his knowledge had guns, and those only for hunting. Why, the thing was absurd, fantastically mischievous, utterly threatening.

Somewhere behind Fara, a man said: "It's right on Lan Harris' lot. Good joke on that old scoundrel. Will he raise a row!"

There was a faint titter from several men, that made an odd patch of sound on the warm, fresh air. And Fara saw that the man had spoken the truth. The weapon shop had a forty-foot frontage. And it occupied the very center of the green, gardenlike lot of tight-fisted, old Harris.

Fara frowned. The clever devils, the weapon-shop people, selecting the property of the most disliked man in town, coolly taking it over and giving everybody an agreeable titillation. But the very cunning of it made it vital that the trick shouldn't succeed.

He was still scowling anxiously when he saw the plump figure of Mel Dale, the mayor. Fara edged toward him hurriedly, touched his hat respectfully, and said:

"Where's Jor?"

"Here." The village constable elbowed his way through a little bundle of men. "Any plans?" he said.

"There's only one plan," said Fara boldly. "Go in and arrest them."

To Fara's amazement, the two men looked at each other, then at the ground. It was the big constable who answered shortly:

"Door's locked. And nobody answers our pounding. I was just going to suggest we let the matter ride until morning."

"Nonsense!" His very astonishment made Fara impatient. "Get an ax and we'll break the door down. Delay will only encourage such ruffraff to resist. We don't want their kind in our village for so much as a single night. Isn't that so?"

There was a hasty nod of agreement from everybody in his immediate vicinity. Too hasty. Fara looked around puzzled at eyes that lowered before his level gaze. He thought: "They are all scared. And unwilling." Before he could speak, Constable Jor said:

"I guess you haven't heard about those doors or these shops. From all accounts, you can't break into them."

It struck Fara with a sudden pang that it was

he who would have to act here. He said, "I'll get my atomic cutting machine from my shop. That'll fix them. Have I your permission to do that, Mr. Mayor?"

In the glow of the weapon-shop window, the plump man was sweating visibly. He pulled out a handkerchief, and wiped his forehead. He said:

"Maybe I'd better call the commander of the Imperial garrison at Ferd, and ask them."

"No!" Fara recognized evasion when he saw it. He felt himself steel; the conviction came that all the strength in this village was in him. "We must act ourselves. Other communities have let these people get in because they took no decisive action. We've got to resist to the limit. Beginning now. This minute. Well?"

The mayor's "All right!" was scarcely more than a sigh of sound. But it was all Fara needed.

He called out his intention to the crowd; and then, as he pushed his way out of the mob, he saw his son standing with some other young men staring at the window display.

Fara called: "Cayle, come and help me with the machine."

Cayle did not even turn; and Fara hurried on, seething. That wretched boy! One of these days he, Fara, would have to take firm action there. Or he'd have a no-good on his hands.

The energy was soundless—and smooth. There was no sputter, no fireworks. It glowed with a soft, pure white light, almost caressing the metal panels of the door—but not even beginning to sear them.

Minute after minute, the dogged Fara refused to believe the incredible failure, and played the boundlessly potent energy on that resisting wall. When he finally shut off his machine, he was perspiring freely.

"I don't understand it," he gasped. "Why—no metal is supposed to stand up against a steady flood of atomic force. Even the hard metal plates used inside the blast chamber of a motor take the explosions in what is called infinite series, so that each one has unlimited rest. That's the theory, but actually steady running crystallizes the whole plate after a few months."

"It's as Jor told you," said the mayor. "These weapon shops are—big. They spread right through the empire, and they don't recognize the empress."

Fara shifted his feet on the hard grass, disturbed. He didn't like this kind of talk. It sounded—sacrilegious. And besides it was nonsense. It must be. Before he could speak, a man said somewhere behind him:

"I've heard it said that that door will open only to those who cannot harm the people inside."

The words shocked Fara out of his daze. With a start, and for the first time, he saw that his

failure had had a bad psychological effect. He said sharply:

"That's ridiculous! If there were doors like that, we'd all have them. We—"

The thought that stopped his words was the sudden realization that he had not seen anybody try to open the door; and with all this reluctance around him it was quite possible that—

He stepped forward, grasped at the doorknob, and pulled. The door opened with an unnatural weightlessness that gave him the fleeting impression that the knob had come loose into his hand. With a gasp, Fara jerked the door wide open.

"Jor!" he yelled. "Get in!"

The constable made a distorted movement—distorted by what must have been a will to caution, followed by the instant realization that he could not hold back before so many. He leaped awkwardly toward the open door—and it closed in his face.

Fara stared stupidly at his hand, which was still clenched. And then, slowly, a hideous thrill coursed along his nerves. The knob had—withdrawn. It had twisted, become viscous, and slipped amorphously from his straining fingers. Even the memory of that brief sensation gave him a feeling of unnormal things.

He grew aware that the crowd was watching with a silent intentness. Fara reached again for the knob, not quite so eagerly this time; and it was only a sudden realization of his reluctance that made him angry when the handle neither turned nor yielded in any way.

Determination returned in full force, and with it came a thought. He motioned to the constable. "Go back, Jor, while I pull."

The man retreated, but it did no good. And tugging did not help. The door would not open. Somewhere in the crowd, a man said darkly:

"It decided to let you in, then it changed its mind."

"What foolishness are you talking!" Fara spoke violently. "It changed its mind. Are you crazy? A door has no sense."

But a surge of fear put a half-quaver into his voice. It was the sudden alarm that made him bold beyond all his normal caution. With a jerk of his body, Fara faced the shop.

The building loomed there under the night sky, in itself bright as day, huge in width and length, and alien, menacing, no longer easily conquerable. The dim queasy wonder came as to what the soldiers of the empress would do if they were invited to act. And suddenly—a bare, flashing glimpse of grim possibility—the feeling grew that even they would be able to do nothing.

Abruptly, Fara was conscious of horror that

such an idea could enter his mind. He shut his brain tight, said wildly:

"The door opened for me once. It will open again."

It did. Quite simply it did. Gently, without resistance, with that same sensation of weightlessness, the strange, sensitive door followed the tug of his fingers. Beyond the threshold was dimness, a wide, darkened alcove. He heard the voice of Mel Dale behind him, the mayor saying:

"Fara, don't be a fool. What will you do inside?"

Fara was vaguely amazed to realize that he had stepped across the threshold. He turned, startled, and stared at the blur of faces. "Why—" he began blankly; then he brightened; he said, "Why, I'll buy a gun, of course."

The brilliance of his reply, the cunning implicit in it, dazzled Fara for half a minute longer. The mood yielded slowly, as he found himself in the dimly lighted interior of the weapon shop.

It was preternaturally quiet inside. Not a sound penetrated from the night from which he had come; and the startled thought came that the people of the shop might actually be unaware that there was a crowd outside.

Fara walked forward gingerly on a rugged floor that muffled his footsteps utterly. After a moment, his eyes accustomed themselves to the soft lighting, which came like a reflection from the walls and ceilings. In a vague way, he had expected ultranormalness; and the ordinariness of the atomic lighting acted like a tonic to his tensed nerves.

He shook himself angrily. Why should there be anything really superior? He was getting as bad as those credulous idiots out in the street.

He glanced around with gathering confidence. The place looked quite common. It was a shop, almost scantily furnished. There were showcases on the walls and on the floor, glitteringly lovely things, but nothing unusual, and not many of them—a few dozens. There was in addition a double, ornate door leading to a back room—

Fara tried to keep one eye on that door, as he examined several showcases, each with three or four weapons either mounted or arranged in boxes or holsters.

Abruptly, the weapons began to excite him. He forgot to watch the door, as the wild thought struck that he ought to grab one of those guns from a case, and then the moment someone came, force him outside where Jor would perform the arrest and—

Behind him, a man said quietly: "You wish to buy a gun?"

Fara turned with a jump. Brief rage flooded him at the way his plan had been wrecked by the arrival of the clerk.

The anger died as he saw that the intruder was a fine-looking, silver-haired man, older than himself. That was immeasurably disconcerting. Fara had an immense and almost automatic respect for age, and for a long second he could only stand there gaping. He said at last, lamely:

"Yes, yes, a gun."

"For what purpose?" said the man in his quiet voice.

Fara could only look at him blankly. It was too fast. He wanted to get mad. He wanted to tell these people what he thought of them. But the age of this representative locked his tongue, tangled his emotions. He managed speech only by an effort of will:

"For hunting." The plausible word stiffened his mind. "Yes, definitely for hunting. There is a lake to the north of here," he went on more fulsomely, glibly, "and—"

He stopped, scowling, startled at the extent of his dishonesty. He was not prepared to go so deeply into prevarication. He said curtly:

"For hunting."

Fara was himself again. Abruptly, he hated the man for having put him so completely at a disadvantage. With smoldering eyes he watched the old fellow click open a showcase, and take out a green-shining rifle.

As the man faced him, weapon in hand, Fara was thinking grimly, "Pretty clever, having an old man as a front." It was the same kind of cunning that had made them choose the property of Miser Harris. Icily furious, taut with his purpose, Fara reached for the gun; but the man held it out of his reach, saying:

"Before I can even let you test this, I am compelled by the by-laws of the weapon shops to inform you under what circumstances you may purchase a gun."

So they had private regulations. What a system of psychological tricks to impress gullible fools. Well, let the old scoundrel talk. As soon as he, Fara, got hold of the rifle, he'd put an end to hypocrisy.

"We weapons makers," the clerk was saying mildly, "have evolved guns that can, in their particular ranges, destroy any machine or object made of what is called matter. Thus whoever possesses one of our weapons is the equal and more of any soldier of the empress. I say more because each gun is the center of a field of force which acts as a perfect screen against immaterial destructive forces. That screen offers no resistance to clubs or spears or bullets, or other material substances, but it would require a small atomic cannon to penetrate the superb barrier it creates around its owner.

"You will readily comprehend," the man went on, "that such a potent weapon could not be al-

lowed to fall, unmodified, into irresponsible hands. Accordingly, no gun purchased from us may be used for aggression or murder. In the case of the hunting rifle, only such specified game birds and animals as we may from time to time list in our display windows may be shot. Finally, no weapon can be resold without our approval. Is that clear?"

Fara nodded dumbly. For the moment, speech was impossible to him. The incredible, fantastically stupid words were still going round and around in his head. He wondered if he ought to laugh out loud, or curse the man for daring to insult his intelligence so tremendously.

So the gun mustn't be used for murder or robbery. So only certain birds and animals could be shot. And as for reselling it, suppose—suppose he bought this thing, took a trip of a thousand miles, and offered it to some wealthy stranger for two credits—who would ever know?

Or suppose he held up the stranger. Or shot him. How would the weapon shop ever find out? The thing was so ridiculous that—

He grew aware that the gun was being held out to him stock first. He took it eagerly, and had to fight the impulse to turn the muzzle directly on the old man. Mustn't rush this, he thought tautly. He said:

"How does it work?"

"You simply aim it, and pull the trigger. Perhaps you would like to try it on a target we have."

Fara swung the gun up. "Yes," he said triumphantly, "and you're it. Now, just get over there to the front door, and then outside."

He raised his voice: "And if anybody's thinking of coming through the back door, I've got that covered, too."

He motioned jerkily at the clerk. "Quick now, move! I'll shoot! I swear I will."

The man was cool, unflustered. "I have no doubt you would. When we decided to attune the door so that you could enter despite your hostility, we assumed the capacity for homicide. However, this is our party. You had better adjust yourself accordingly, and look behind you—"

There was silence. Finger on trigger, Fara stood moveless. Dim thoughts came of all the *half-things* he had heard in his days about the weapon shops: that they had secret supporters in every district, that they had a private and ruthless hidden government, and that once you got into their clutches, the only way out was death and—

But what finally came clear was a mind picture of himself, Fara Clark, family man, faithful subject of the empress, standing here in this dimly lighted store, deliberately fighting an organization

so vast and menacing that— He must have been mad.

Only—here he was. He forced courage into his sagging muscles. He said:

"You can't fool me with pretending there's someone behind me. Now, get to that door. And fast!"

The firm eyes of the old man were looking past him. The man said quietly: "Well, Rad, have you all the data?"

"Enough for a primary," said a young man's baritone voice behind Fara. "Type A-7 conservative. Good average intelligence, but a Monaric development peculiar to small towns. One-sided outlook fostered by the Imperial schools present in exaggerated form. Extremely honest. Reason would be useless. Emotional approach would require extended treatment. I see no reason why we should bother. Let him live his life as it suits him."

"If you think," Fara said shakily, "that that trick voice is going to make me turn, you're crazy. That's the left wall of the building. I know there's no one there."

"I'm all in favor, Rad," said the old man, "of letting him live his life. But he was the prime mover of the crowd outside. I think he should be discouraged."

"We'll advertise his presence," said Rad. "He'll spend the rest of his life denying the charge."

Fara's confidence in the gun had faded so far that, as he listened in puzzled uneasiness to the incomprehensible conversation, he forgot it completely. He parted his lips, but before he could speak, the old man cut in, persistently:

"I think a little emotion might have a long-run effect. Show him the palace."

Palace! The startling word tore Fara out of his brief paralysis. "See here," he began, "I can see now that you lied to me. This gun isn't loaded at all. It's—"

His voice failed him. Every muscle in his body went rigid. He stared like a madman. *There was no gun in his hands.*

"Why, you—" he began wildly. And stopped again. His mind heaved with imbalance. With a terrible effort he fought off the spinning sensation, thought finally, tremblingly: Somebody must have sneaked the gun from him. That meant—there was someone behind him. The voice was no mechanical thing. Somehow, they had—

He started to turn—and couldn't. What in the name of— He struggled, pushing with his muscles. And couldn't move, couldn't budge, couldn't even—

The room was growing curiously dark. He had difficulty seeing the old man and— He would have shrieked then if he could. Because the weapon shop was gone. He was—

He was standing in the sky above an immense city.

In the sky, and nothing beneath him, nothing around him but air, and blue summer heaven, and the city a mile, two miles below.

Nothing, nothing— He would have shrieked, but his breath seemed solidly embedded in his lungs. Sanity came back as the remote awareness impinged upon his terrified mind that he was actually standing on a hard floor, and that the city must be a picture somehow focused directly into his eyes.

For the first time, with a start, Fara recognized the metropolis below. It was the city of dreams, Imperial City, capital of the glorious Empress Isher— From his great height, he could see the gardens, the gorgeous grounds of the silver palace, the official Imperial residence itself—

The last tendrils of his fear were fading now before a gathering fascination and wonder; they vanished utterly as he recognized with a ghastly thrill of uncertain expectancy that the palace was drawing nearer at great speed.

"Show him the palace," they had said. Did that mean, could it mean—

That spray of tense thoughts splattered into nonexistence, as the glittering roof flashed straight at his face. He gulped, as the solid metal of it passed through him, and then other walls and ceilings.

His first sense of imminent and mind-shaking desecration came as the picture paused in a great room where a score of men sat around a table at the head of which sat—a young woman.

The inexorable, sacrilegious, limitlessly powered cameras that were taking the picture swung across the table, and caught the woman full face.

It was a handsome face, but there was passion and fury twisting it now, and a very blaze of fire in her eyes, as she leaned forward, and said in a voice at once familiar—how often Fara had heard, its calm, measured tones on the telestats—and distorted. Utterly distorted by anger and an insolent certainty of command. That caricature of a beloved voice slashed across the silence as clearly as if he, Fara, was there in that room:

"I want that skunk killed, do you understand? I don't care how you do it, but I want to hear by tomorrow night that he's dead."

The picture snapped off and instantly—it was as swift as that—Fara was back in the weapon shop. He stood for a moment, swaying, fighting to accustom his eyes to the dimness; and then—

His first emotion was contempt at the simplicity of the trickery—a motion picture. What kind of a fool did they think he was, to swallow something as transparently unreal as that? He'd—

Abruptly, the appalling lechery of the scheme, the indescribable wickedness of what was being

attempted here brought red rage.

"Why, you scum!" he flared. "So you've got somebody to act the part of the empress, trying to pretend that— Why, you—"

"That will do," said the voice of Rad; and Fara shook as a big young man walked into his line of vision. The alarmed thought came that people who would besmirch so vilely the character of her imperial majesty would not hesitate to do physical damage to Fara Clark. The young man went on in a steely tone:

"We do not pretend that what you saw was taking place this instant in the palace. That would be too much of a coincidence. But it was taken two weeks ago; the woman is the empress. The man whose death she ordered is one of her many former lovers. He was found murdered two weeks ago; his name, if you care to look it up in the news files, is Banton McCreddie. However, let that pass. We're finished with you now and—"

"But I'm not finished," Fara said in a thick voice. "I've never heard or seen so much infamy in all my life. If you think this town is through with you, you're crazy. We'll have a guard on this place day and night, and nobody will get in or out. We'll—"

"That will do." It was the silver-haired man; and Fara stopped out of respect for age, before he thought. The old man went on: "The examination has been most interesting. As an honest man, you may call on us if you are ever in trouble. That is all. Leave through the side door."

It was all. Impalpable forces grabbed him, and he was shoved at a door that appeared miraculously in the wall, where seconds before the palace had been.

He found himself standing dazedly in a flower bed, and there was a swarm of men to his left. He recognized his fellow townsmen and that he was—outside.

The incredible nightmare was over.

"Where's the gun?" said Crœl, as he entered the house half an hour later.

"The gun?" Fara stared at his wife.

"It said over the radio a few minutes ago that you were the first customer of the new weapon shop. I thought it was queer, but—"

He was eerily conscious of her voice going on for several words longer, but it was the purest jumble. The shock was so great that he had the horrible sensation of being on the edge of an abyss.

So that was what the young man had meant: "Advertise! We'll advertise his presence and—"

Fara thought: His reputation! Not that his was a great name, but he had long believed with a quiet pride that Fara Clark's motor repair shop was widely known in the community and countryside.

First, his private humiliation inside the shop. And now this—lying—to people who didn't know why he had gone into the store. Diabolical.

His paralysis ended, as a frantic determination to rectify the base charge drove him to the telestat. After a moment, the plump, sleepy face of Mayor Mel Dale appeared on the plate. Fara's voice made a barrage of sound, but his hopes dashed, as the man said:

"I'm sorry, Fara. I don't see how you can have free time on the telestat. You'll have to pay for it. They did."



"They did!" Fara wondered vaguely if he sounded as empty as he felt.

"And they've just paid Lan Harris for his lot. The old man asked top price, and got it. He just phoned me to transfer the title."

"Oh!" The world was shattering. "You mean nobody's going to do anything. What about the Imperial garrison at Ferd?"

Dimly, Fara was aware of the mayor mumbling something about the empress' soldiers refusing to interfere in civilian matters.

"Civilian matters!" Fara exploded. "You mean these people are just going to be allowed to come here whether we want them or not, illegally forcing the sale of lots by first taking possession of them?"

A sudden thought struck him breathless. "Look, you haven't changed your mind about having Jor keep guard in front of the shop?"

With a start, he saw that the plump face in the telestat plate had grown impatient. "Now, see here, Fara," came the pompous words, "let the constituted authorities handle this matter."

"But you're going to keep Jor there," Fara said doggedly.

The mayor looked annoyed, said finally peevishly: "I promised, didn't I? So he'll be there. And now—do you want to buy time on the telestat? It's fifteen credits for one minute. Mind you, as a friend, I think you're wasting your money. No one has ever caught up with a false statement."

Fara said grimly: "Put two on, one in the morning, one in the evening."

"All right. We'll deny it completely. Good night."

The telestat went blank; and Fara sat there. A new thought hardened his face. "That boy of ours—there's going to be a showdown. He either works in my shop, or he gets no more allowance."

Creel said: "You've handled him wrong. He's twenty-three, and you treat him like a child. Remember, at twenty-three, you were a married man."

"That was different," said Fara. "I had a sense of responsibility. Do you know what he did tonight?"

He didn't quite catch her answer. For the moment, he thought she said: "No; in what way did you humiliate him first?"

Fara felt too impatient to verify the impossible words. He rushed on: "He refused in front of the whole village to give me help. He's a bad one, all bad."

"Yes," said Creel in a bitter tone, "he is all bad. I'm sure you don't realize how bad. He's as cold as steel, but without steel's strength or integrity. He took a long time, but he hates even me now, because I stood up for your side so long, knowing you were wrong."

"What's that?" said Fara, startled; then gruffly: "Come, come, my dear, we're both upset. Let's go to bed."

He slept poorly.

There were days then when the conviction that this was a personal fight between himself and the weapon shop lay heavily on Fara. Grimly, though it was out of his way, he made a point of walking past the weapon shop, always pausing to speak to Constable Jor and—

On the fourth day, the policeman wasn't there.

Fara waited patiently at first, then angrily; then he walked hastily to his shop, and called Jor's house. No, Jor wasn't home. He was guarding the weapon store.

Fara hesitated. His own shop was piled with work, and he had a guilty sense of having neglected his customers for the first time in his life. It would be simple to call up the mayor and report Jor's dereliction. And yet—

He didn't want to get the man into trouble—

Out in the street, he saw that a large crowd was gathering in front of the weapon shop. Fara hurried. A man he knew greeted him excitedly:

"Jor's been murdered, Fara!"

"Murdered!" Fara stood stock-still, and at first he was not clearly conscious of the grisly thought that was in his mind: Satisfaction! A flaming satisfaction. Now, he thought, even the soldiers would have to act. They—

With a gasp, he realized the ghastly tenor of his thoughts. He shivered, but finally pushed the sense of shame out of his mind. He said slowly:

"Where's the body?"

"Inside."

"You mean, those . . . scum—" In spite of himself, he hesitated over the epithet; even now, it was difficult to think of the fine-faced, silver-haired old man in such terms. Abruptly, his mind hardened; he flared: "You mean those scum actually killed him, then pulled his body inside?"

"Nobody saw the killing," said a second man beside Fara, "but he's gone, hasn't been seen for three hours. The mayor got the weapon shop on the telestat, but they claim they don't know anything. They've done away with him, that's what, and now they're pretending innocence. Well, they won't get out of it as easily as that. Mayor's gone to phone the soldiers at Ferd to bring up some big guns and—"

Something of the intense excitement that was in the crowd surged through Fara, the feeling of big things brewing. It was the most delicious sensation that had ever tingled along his nerves, and it was all mixed with a strange pride that he had been so right about this, that he at least had never doubted that here was evil.

He did not recognize the emotion as the full-flowering joy that comes to a member of a mob.

But his voice shook, as he said:

"Guns? Yes, that will be the answer, and the soldiers will have to come, of course."

Fara nodded to himself in the immensity of his certainty that the Imperial soldiers would now have no excuse for not acting. He started to say something dark about what the empress would do if she found out that a man had lost his life because the soldiers had shirked their duty, but the words were drowned in a shout:

"Here comes the mayor! Hey, Mr. Mayor, when are the atomic cannons due?"

There was more of the same general meaning, as the mayor's sleek, all-purpose car landed lightly. Some of the questions must have reached his honor, for he stood up in the open two-seater, and held up his hand for silence.

To Fara's astonishment, the plump-faced man looked at him with accusing eyes. The thing seemed so impossible that, quite instinctively, Fara looked behind him. But he was almost alone; everybody else had crowded forward.

Fara shook his head, puzzled by that glare; and then, astoundingly, Mayor Dale pointed a finger at him, and said in a voice that trembled:

"There's the man who's responsible for the trouble that's come upon us. Stand forward, Fara Clark, and show yourself. You've cost this town seven hundred credits that we could ill afford to spend."

Fara couldn't have moved or spoken to save his life. He just stood there in a maze of dumb bewilderment. Before he could even think, the mayor went on, and there was quivering self-pity in his tone:

"We've all known that it wasn't wise to interfere with these weapon shops. So long as the Imperial government leaves them alone, what right have we to set up guards, or act against them? That's what I've thought from the beginning, but this man . . . this . . . this Fara Clark kept after all of us, forcing us to move against our wills, and so now we've got a seven-hundred-credit bill to meet and—"

He broke off with: "I might as well make it brief. When I called the garrison, the commander just laughed and said that Jor would turn up. And I had barely disconnected when there was a money call from Jor. He's on Mars."

He waited for the shouts of amazement to die down. "It'll take three weeks for him to come back by ship, and we've got to pay for it, and Fara Clark is responsible. He—"

The shock was over. Fara stood cold, his mind hard. He said finally, scathingly: "So you're giving up, and trying to blame me all in one breath. I say you're all fools."

As he turned away, he heard Mayor Dale saying something about the situation not being com-

pletely lost, as he had learned that the weapon shop had been set up in Glay because the village was equidistant from four cities, and that it was the city business the shop was after. This would mean tourists, and accessory trade for the village stores and—

Fara heard no more. Head high, he walked back toward his shop. There were one or two catcalls from the mob, but he ignored them.

He had no sense of approaching disaster, simply a gathering fury against the weapon shop, which had brought him to this miserable status among his neighbors.

The worst of it, as the days passed, was the realization that the people of the weapon shop had no personal interest in him. They were remote, superior, undefeatable. That unconquerableness was a dim, suppressed awareness inside Fara.

When he thought of it, he felt a vague fear at the way they had transferred Jor to Mars in a period of less than three hours, when all the world knew that the trip by fastest spaceship required nearly three weeks.

Fara did not go to the express station to see Jor arrive home. He had heard that the council had decided to charge Jor with half of the expense of the trip, on the threat of losing his job if he made a fuss.

On the second night after Jor's return, Fara slipped down to the constable's house, and handed the officer one hundred seventy-five credits. It wasn't that he was responsible, he told Jor, but—

The man was only too eager to grant the disclaimer, provided the money went with it. Fara returned home with a clearer conscience.

It was on the third day after that that the door of his shop banged open and a man came in. Fara frowned as he saw who it was: Castler, a village hanger-on. The man was grinning:

"Thought you might be interested, Fara. Somebody came out of the weapon shop today."

Fara strained deliberately at the connecting bolt of a hard plate of the atomic motor he was fixing. He waited with a gathering annoyance that the man did not volunteer further information. Asking questions would be a form of recognition of the worthless fellow. A developing curiosity made him say finally, grudgingly:

"I suppose the constable promptly picked him up."

He supposed nothing of the kind, but it was an opening.

"It wasn't a man. It was a girl."

Fara knitted his brows. He didn't like the idea of making trouble for women. But—the cunning devils! Using a girl, just as they had used an old man as a clerk. It was a trick that deserved to fail, the girl probably a tough one who needed rough treatment. Fara said harshly:

"Well, what's happened?"

"She's still out, bold as you please. Pretty thing, too."

The bolt off, Fara took the hard plate over to the polisher, and began patiently the long, careful task of smoothing away the crystals that heat had seared on the once shining metal. The soft throb of the polisher made the background to his next words:

"Has anything been done?"

"Nope. The constable's been told, but he says he doesn't fancy being away from his family for another three weeks, and paying the cost into the bargain."

Fara contemplated that darkly for a minute, as the polisher throbbed on. His voice shook with suppressed fury, when he said finally:

"So they're letting them get away with it. It's all been as clever as hell. Can't they see that they mustn't give an inch before these . . . these transgressors. It's like giving countenance to sin."

From the corner of his eye, he noticed that there was a curious grin on the face of the other. It struck Fara suddenly that the man was enjoying his anger. And there was something else in that grin; something—a secret knowledge.

Fara pulled the engine plate away from the polisher. He faced the ne'er-do-well, scathed at him:

"Naturally, that sin part wouldn't worry you much."

"Oh," said the man nonchalantly, "the hard knocks of life make people tolerant. For instance, after you know the girl better, you yourself will probably come to realize that there's good in all of us."

It was not so much the words, as the curious I've-got-secret-information tone that made Fara snap:

"What do you mean—if I get to know the girl better! I won't even speak to the brazen creature."

"One can't always choose," the other said with enormous casualness. "Suppose he brings her home."

"Suppose who brings who home?" Fara spoke irritably. "Castler, you—"

He stopped; a dead weight of dismay plumped into his stomach; his whole being sagged. "You mean—" he said.

"I mean," replied Castler with a triumphant leer, "that the boys aren't letting a beauty like her be lonesome. And, naturally, your son was the first to speak to her."

He finished: "They're walkin' together now on Second Avenue, comin' this way, so—"

"Get out of here!" Fara roared. "And stay away from me with your gloating. Get out!"

The man hadn't expected such an ignominious ending. He flushed scarlet, then went out, slamming the door.

Fara stood for a moment, every muscle stiff; then, with an abrupt, jerky movement, he shut off his power, and went out into the street.

The time to put a stop to that kind of thing was—now!

He had no clear plan, just that violent determination to put an immediate end to an impossible situation. And it was all mixed up with his anger against Cayle. How could he have had such a worthless son, he who paid his debts and worked hard, and tried to be decent and to live up to the highest standards of the empress?

A brief, dark thought came to Fara that maybe there was some bad blood on Creel's side. Not from her mother, of course—Fara added the mental thought hastily. *There* was a fine, hard-working woman, who hung on to her money, and who would leave Creel a tidy sum one of these days.

But Creel's father had disappeared when Creel was only a child, and there had been some vague scandal about him having taken up with a telestat actress.

And now Cayle with this weapon-shop girl. A girl who had let herself be picked up—

He saw them, as he turned the corner onto Second Avenue. They were walking a hundred feet distant, and heading away from Fara. The girl was tall and slender, almost as big as Cayle, and, as Fara came up, she was saying:

"You have the wrong idea about us. A person like you can't get a job in our organization. You belong in the Imperial Service, where they can use young men of good education, good appearance and no scruples. I—"

Fara grasped only dimly that Cayle must have been trying to get a job with these people. It was not clear; and his own mind was too intent on his purpose for it to mean anything at the moment. He said harshly:

"Cayle!"

The couple turned, Cayle with the measured unhurriedness of a young man who has gone a long way on the road to steellike nerves; the girl was quicker, but withal dignified.

Fara had a vague, terrified feeling that his anger was too great, self-destroying, but the very violence of his emotions ended that thought even as it came. He said thickly:

"Cayle, get home—at once."

Fara was aware of the girl looking at him curiously from strange, gray-green eyes. No shame, he thought, and his rage mounted several degrees, driving away the alarm that came at the sight of the flush that crept into Cayle's cheeks.

The flush faded into a pale, tight-lipped anger;

Cayle half-turned to the girl, said:

"This is the childish old fool I've got to put up with. Fortunately, we seldom see each other; we don't even eat together. What do you think of him?"

The girl smiled impersonally: "Oh, we know Fara Clark; he's the backbone of the empress in Glay."

"Yes," the boy sneered. "You ought to hear him. He thinks we're living in heaven; and the empress is the divine power. The worst part of it is that there's no chance of his ever getting that stuffy look wiped off his face."

They walked off; and Fara stood there. The very extent of what had happened had drained anger from him as if it had never been. There was the realization that he had made a mistake so great that—

He couldn't grasp it. For long, long now, since Cayle had refused to work in his shop, he had felt this building up to a climax. Suddenly, his own uncontrollable ferocity stood revealed as a partial product of that—deeper—problem.

Only, now that the smash was here, he didn't want to face it—

All through the day in his shop, he kept pushing it out of his mind, kept thinking:

Would this go on now, as before, Cayle and he living in the same house, not even looking at each other when they met, going to bed at different times, getting up, Fara at 6:30, Cayle at noon? Would *that* go on through all the days and years to come?

When he arrived home, Creel was waiting for him. She said:

"Fara, he wants you to loan him five hundred credits, so that he can go to Imperial City."

Fara nodded wordlessly. He brought the money back to the house the next morning, and gave it to Creel, who took it into the bedroom.

She came out a minute later. "He says to tell you good-by."

When Fara came home that evening, Cayle was gone. He wondered whether he ought to feel relieved or—what?

The days passed. Fara worked. He had nothing else to do, and the gray thought was often in his mind that now he would be doing it till the day he died. Except—

Fool that he was—he told himself a thousand times how big a fool—he kept hoping that Cayle would walk into the shop and say:

"Father, I've learned my lesson. If you can ever forgive me, teach me the business, and then you retire to a well-earned rest."

It was exactly a month to a day after Cayle's departure that the telestat clicked on just after Fara had finished lunch. "Money call," it sighed, "money call."

AST—2N

Fara and Creel looked at each other. "Eh," said Fara finally, "money call for us."

He could see from the gray look in Creel's face the thought that was in her mind. He said under his breath: "Damn that boy!"

But he felt relieved. Amazingly, relieved! Cayle was beginning to appreciate the value of parents and—

He switched on the viewer. "Come and collect," he said.

The face that came on the screen was heavy-jowled, beetle-browed—and strange. The man said:

"This is Clerk Pearton of the Fifth Bank of Ferd. We have received a sight draft on you for ten thousand credits. With carrying charges and government tax, the sum required will be twelve thousand one hundred credits. Will you pay it now or will you come in this afternoon and pay it?"

"B-but . . . b-but—" said Fara. "W—who—"

He stopped, conscious of the stupidity of the question, dimly conscious of the heavy-faced man saying something about the money having been paid out to one Cayle Clark, that morning, in Imperial City. At last, Fara found his voice:

"But the bank had no right," he expostulated, "to pay out the money without my authority. I—"

The voice cut him off coldly: "Are we then to inform our central that the money was obtained under false pretenses? Naturally, an order will be issued immediately for the arrest of your son."

"Wait . . . wait—" Fara spoke blindly. He was aware of Creel beside him, shaking her head at him. She was as white as a sheet, and her voice was a sick, stricken thing, as she said:

"Fara, let him go. He's through with us. We must be as hard—let him go."

The words rang senselessly in Fara's ears. They didn't fit into any normal pattern. He was saying:

"I . . . I haven't got— How about my paying . . . installments? I—"

"If you wish a loan," said Clerk Pearton, "naturally we will be happy to go into the matter. I might say that when the draft arrived, we checked up on your status, and we are prepared to loan you eleven thousand credits on indefinite call with your shop as security. I have the form here, and if you are agreeable, we will switch this call through the registered circuit, and you can sign at once."

"Fara, no."

The clerk went on: "The other eleven hundred credits will have to be paid in cash. Is that agreeable?"

"Yes, yes, of course, I've got twenty-five hund—" He stopped his chattering tongue with a gulp; then: "Yes, that's satisfactory."

The deal completed, Fara whirled on his wife. Out of the depths of his hurt and bewilderment, he raged:

"What do you mean, standing there and talking about not paying it? You said several times that I was responsible for him being what he is. Besides, we don't know why he needed the money. He—"

Creel said in a low, dead tone: "In one hour, he's stripped us of our life work. He did it deliberately, thinking of us as two old fools, who wouldn't know any better than to pay it."

Before he could speak, she went on: "Oh, I know I blamed you, but in the final issue, I knew it was he. He was always cold and calculating, but I was weak, and I was sure that if you handled him in a different . . . and besides I didn't want to see his faults for a long time. He—"

"All I see," Fara interrupted doggedly, "is that I have saved our name from disgrace."

His high sense of duty rightly done lasted until midafternoon, when the bailiff from Ferd came to take over the shop.

"But what—" Fara began.

The bailiff said: "The Automatic Atomic Repair Shops, Limited, took over your loan from the bank, and are foreclosing. Have you anything to say?"

"It's unfair," said Fara. "I'll take it to court. I'll—"

He was thinking dazedly: "If the empress ever learned of this, she'd . . . she'd—"

The courthouse was a big, gray building; and Fara felt emptier and colder every second, as he walked along the gray corridors. In Glay, his decision not to give himself into the hands of a bloodsucker of a lawyer had seemed a wise act. Here, in these enormous halls and palatial rooms, it seemed the sheerest folly.

He managed, nevertheless, to give an articulate account of the criminal act of the bank in first giving Cayle the money, then turning over the note to his chief competitor, apparently within minutes of his signing it. He finished with:

"I'm sure, sir, the empress would not approve of such goings-on against honest citizens. I—"

"How dare you," said the cold-voiced creature on the bench, "use the name of her holy majesty in support of your own gross self-interest?"

Fara shivered. The sense of being intimately a member of the empress' great human family yielded to a sudden chill and a vast mind-picture of the ten million icy courts like this, and the myriad malevolent and heartless men—*like this*—who stood between the empress and her loyal subject, Fara.

He thought passionately: If the empress knew what was happening here, how unjustly he was being treated, she would—

Or would she?

He pushed the crowding, terrible doubt out of his mind—came out of his hard reverie with a start, to hear the Cadi saying:

"Plaintiff's appeal dismissed, with costs assessed at seven hundred credits, to be divided between the court and the defense solicitor in the ratio of five to two. See to it that the appellant does not leave till the costs are paid. Next case—"

Fara went alone the next day to see Creel's mother. He called first at "Farmer's Restaurant" at the outskirts of the village. The place was, he noted with satisfaction in the thought of the steady stream of money flowing in, half full, though it was only midmorning. But madame wasn't there. Try the feed store.

He found her in the back of the feed store, overseeing the weighing out of grain into cloth measures. The hard-faced old woman heard his story without a word. She said finally, curtly:

"Nothing doing, Fara. I'm one who has to make loans often from the bank to swing deals. If I tried to set you up in business, I'd find the Automatic Atomic Repair people getting after me. Besides, I'd be a fool to turn money over to a man who lets a bad son squeeze a fortune out of him. Such a man has no sense about worldly things.

"And I won't give you a job because I don't hire relatives in my business." She finished: "Tell Creel to come and live at my house. I won't support a man, though. That's all."

He watched her disconsolately for a while, as she went on calmly superintending the clerks who were manipulating the old, no longer accurate measuring machines. Twice her voice echoed through the dust-filled interior, each time with a sharp: "That's overweight, a gram at least. Watch your machine."

Though her back was turned, Fara knew by her posture that she was still aware of his presence. She turned at last with an abrupt movement, and said:

"Why don't you go to the weapon shop? You haven't anything to lose, and you can't go on like this."

Fara went out, then, a little blindly. At first the suggestion that he buy a gun and commit suicide had no real personal application. But he felt immeasurably hurt that his mother-in-law should have made it.

Kill himself? Why, it was ridiculous. He was still only a young man, going on fifty. Given the proper chance, with his skilled hands, he could wrest a good living even in a world where automatic machines were encroaching everywhere. There was always room for a man who did a good job. His whole life had been based on that credo.

Kill himself—

He went home to find Creel packing. "It's the common sense thing to do," she said. "We'll rent the house and move into rooms."

He told her about her mother's offer to take her in, watching her face as he spoke. Creel shrugged.

"I told her 'No' yesterday," she said thoughtfully. "I wonder why she mentioned it to you."

Fara walked swiftly over to the great front window overlooking the garden, with its flowers, its pool, its rockery. He tried to think of Creel away from this garden of hers, this home of two thirds a lifetime, Creel living in rooms—and knew what her mother had meant. There was one more hope—

He waited till Creel went upstairs, then called Mel Dale on the telestat. The mayor's plump face took on an uneasy expression as he saw who it was.

But he listened pontifically, said finally: "Sorry, the council does not loan money; and I might as well tell you, Fara—I have nothing to do with this, mind you—but you can't get a license for a shop any more."

"W-what?"

"I'm sorry!" The mayor lowered his voice. "Listen, Fara, take my advice and go to the weapon shop. These places have their uses."

There was a click, and Fara sat staring at the blank face of the viewing screen.

So it was to be—death!

He waited until the street was empty of human beings, then slipped across the boulevard, past a design of flower gardens, and so to the door of the shop. The brief fear came that the door wouldn't open, but it did, effortlessly.

As he emerged from the dimness of the alcove into the shop proper, he saw the silver-haired old man sitting in a corner chair, reading under a softly bright light. The old man looked up, put aside his book, then rose to his feet.

"It's Mr. Clark," he said quietly. "What can we do for you?"

A faint flush crept into Fara's cheeks. In a dim fashion, he had hoped that he would not suffer the humiliation of being recognized; but now that his fear was realized, he stood his ground stubbornly. The important thing about killing himself was that there be no body for Creel to bury at great expense. Neither knife nor poison would satisfy that basic requirement.

"I want a gun," said Fara, "that can be adjusted to disintegrate a body six feet in diameter in a single shot. Have you that kind?"

Without a word, the old man turned to a showcase, and brought forth a sturdy gem of a revolver that glinted with all the soft colors of the inimitable Ordine plastic. The man said in a precise voice:

"Notice the flanges on this barrel are little more than bulges. This makes the model ideal for carrying in a shoulder holster under the coat; it can be drawn very swiftly because, when properly attuned, it will leap toward the reaching hand of its owner. At the moment it is attuned to me. Watch while I replace it in its holster and—"

The speed of the draw was absolutely amazing. The old man's fingers moved; and the gun, four feet away, was in them. There was no blur of movement. It was like the door the night that it had slipped from Fara's grasp, and slammed noiselessly in Constable Jor's face. *Instantaneous!*

Fara, who had parted his lips as the old man was explaining, to protest the utter needlessness of illustrating any quality of the weapon except what he had asked for, closed them again. He stared in a brief, dazed fascination; and something of the wonder that was here held his mind and his body.

He had seen and handled the guns of soldiers, and they were simply ordinary metal or plastic things that one used clumsily like any other material substance, not like this at all, not possessed of a dazzling life of their own, leaping with an intimate eagerness to assist with all their superb power the will of their master. They—

With a start, Fara remembered his purpose. He smiled wryly, and said:

"All this is very interesting. But what about the beam that can fan out?"

The old man said calmly: "At pencil thickness, this beam will pierce any body except certain alloys of lead up to four hundred yards. With proper adjustment of the firing nozzle, you can disintegrate a six-foot object at fifty yards or less. This screw is the adjustor."

He indicated a tiny device in the muzzle itself. "Turn it to the left to spread the beam, to the right to close it."

Fara said: "I'll take the gun. How much is it?"

He saw that the old man was looking at him thoughtfully; the oldster said finally, slowly: "I have previously explained our regulations to you, Mr. Clark. You recall them, of course?"

"Eh!" said Fara, and stopped, wide-eyed. It wasn't that he didn't remember them. It was simply—

"You mean," he gasped, "those things actually apply. They're not—"

With a terrible effort, he caught his spinning brain and blurring voice. Tense and cold, he said:

"All I want is a gun that will shoot in self-defense, but which I can turn on myself if I have to or—want to."

"Oh, suicide!" said the old man. He looked as if a great understanding had suddenly dawned



on him. "My dear sir, we have no objection to you killing yourself at any time. That is your personal privilege in a world where privileges grow scantier every year. As for the price of this revolver, it's four credits."

"Four credits . . . only four credits!" said Fara.

He stood, absolutely astounded, his whole mind snatched from its dark purpose. Why, the plastic alone was—and the whole gun with its fine, intricate workmanship—twenty-five credits would have been dirt cheap.

He felt a brief thrall of utter interest; the mystery of the weapon shops suddenly loomed as vast and important as his own black destiny. But the old man was speaking again:

"And now, if you will remove your coat, we can put on the holster—"

Quite automatically, Fara complied. It was vaguely startling to realize that, in a few seconds, he would be walking out of here, equipped for self-murder, and that there was now not a single obstacle to his death.

Curiously, he was disappointed. He couldn't explain it, but somehow there had been in the back of his mind a hope that these shops might, just might—what?

What indeed? Fara sighed wearily—and grew aware again of the old man's voice, saying:

"Perhaps you would prefer to step out of our side door. It is less conspicuous than the front."

There was no resistance in Fara. He was dimly conscious of the man's fingers on his arm, half guiding him; and then the old man pressed one of several buttons on the wall—so that's how it was done—and there was the door.

He could see flowers beyond the opening; without a word he walked toward them. He was outside almost before he realized it.

Fara stood for a moment in the neat little pathway, striving to grasp the finality of his situation. But nothing would come except a curious awareness of many men around him; for a long second,

his brain was like a log drifting along a stream at night.

Through that darkness grew a consciousness of something wrong; the wrongness was there in the back of his mind, as he turned leftward to go to the front of the weapon store.

Vagueness transformed to a shocked, startled sound. For—he was not in Glay, and the weapon shop *wasn't* where it had been. In its place—

A dozen men brushed past Fara to join a long line of men farther along. But Fara was immune to their presence, their strangeness. His whole mind, his whole vision, his very being was concentrating on the section of machine that stood where the weapon shop had been.

A machine, oh, a machine—

His brain lifted up, up in his effort to grasp the tremendousness of the dull-metaled immensity of what was spread here under a summer sun beneath a sky as blue as a remote southern sea.

The machine towered into the heavens, five great tiers of metal, each a hundred feet high; and the superbly streamlined five hundred feet ended in a peak of light, a gorgeous spire that tilted straight up a sheer two hundred feet farther, and matched the very sun for brightness.

And it was a machine, not a building, because the whole lower tier was alive with shimmering lights, mostly green, but sprinkled colorfully with red and occasionally a blue and yellow. Twice, as Fara watched, green lights directly in front of him flashed unscintillatingly into red.

The second tier was alive with white and red lights, although there were only a fraction as many lights as on the lowest tier. The third section had on its dull-metal surface only blue and yellow lights; they twinkled softly here and there over the vast area.

The fourth tier was a series of signs, that brought the beginning of comprehension. The whole sign was:

WHITE	—	BIRTHS
RED	—	DEATHS
GREEN	—	LIVING
BLUE	—	IMMIGRATION TO EARTH
YELLOW	—	EMIGRATION

The fifth tier was also all sign, finally explaining:

POPULATIONS

SOLAR SYSTEM	19,174,463,747
EARTH	11,193,247,361
MARS	1,097,298,604
VENUS	5,141,053,811
MOONS	1,742,863,971

The numbers changed, even as he looked at them, leaping up and down, shifting below and

above what they had first been. People were dying, being born, moving to Mars, to Venus, to the moons of Jupiter, to Earth's moon, and others coming back again, landing minute by minute in the thousands of spaceports. Life went on in its gigantic fashion—and here was the stupendous record. Here was—

"Better get in line," said a friendly voice beside Fara. "It takes quite a while to put through an individual case, I understand."

Fara stared at the man. He had the distinct impression of having had senseless words flung at him. "In line?" he started—and stopped himself with a jerk that hurt his throat.

He was moving forward, blindly, ahead of the younger man, thinking a curious jumble about that this must have been how Constable Jor was transported to Mars—when another of the man's words penetrated.

"Case?" said Fara violently. "Individual case!"

The man, a heavy-faced, blue-eyed young chap of around thirty-five, looked at him curiously: "You must know why you're here," he said. "Surely, you wouldn't have been sent through here unless you had a problem of some kind that the weapon shop courts will solve for you; there's no other reason for coming to Information Center."

Fara walked on because he was in the line now, a fast-moving line that curved him inexorably around the machine; and seemed to be heading him toward a door that led into the interior of the great metal structure.

So it was a building as well as a machine.

A problem, he was thinking, why, of course, he had a problem, a hopeless, insoluble, completely tangled problem so deeply rooted in the basic structure of Imperial civilization that the whole world would have to be overturned to make it right.

With a start, he saw that he was at the entrance. And the awed thought came: In seconds he would be committed irrevocably to—what?

Inside was a long, shining corridor, with scores of completely transparent hallways leading off the main corridor. Behind Fara, the young man's voice said:

"There's one, practically empty. Let's go."

Fara walked ahead; and suddenly he was trembling. He had already noticed that at the end of each side hallway were some dozen young women sitting at desks, interviewing men and . . . and, good heavens, was it possible that all this meant—

He grew aware that he had stopped in front of one of the girls.

She was older than she had looked from a distance, over thirty, but good-looking, alert. She smiled pleasantly, but impersonally, and said:

"Your name, please?"

He gave it before he thought and added a mumble about being from the village of Glay. The woman said:

"Thank you. It will take a few minutes to get your file. Won't you sit down?"

He hadn't noticed the chair. He sank into it; and his heart was beating so wildly that he felt choked. The strange thing was that there was scarcely a thought in his head, nor a real hope; only an intense, almost mind-wrecking excitement.

With a jerk, he realized that the girl was speaking again, but only snatches of her voice came through that screen of tension in his mind:

"—Information Center is . . . in effect . . . a bureau of statistics. Every person born . . . registered here . . . their education, change of address . . . occupation . . . and the highlights of their life. The whole is maintained by . . . combination of . . . unauthorized and unsuspected liaison with . . . Imperial Chamber of Statistics and . . . through medium of agents . . . in every community—"

It seemed to Fara that he was missing vital information, and that if he could only force his attention and hear more— He strained, but it was no use; his nerves were jumping madly and—

Before he could speak, there was a click, and a thin, dark plate slid onto the woman's desk. She took it up, and examined it. After a moment, she said something into a mouthpiece, and in a short time two more plates precipitated out of the empty air onto her desk. She studied them impassively, looked up finally.

"You will be interested to know," she said, "that your son, Cayle, bribed himself into a commission in the Imperial army with five thousand credits."

"Eh?" said Fara. He half rose from his chair, but before he could say anything, the young woman was speaking again, firmly:

"I must inform you that the weapon shops take no action against individuals. Your son can have his job, the money he stole; we are not concerned with moral correction. That must come naturally from the individual, and from the people as a whole—and now if you will give me a brief account of your problem for the record and the court."

Sweating, Fara sank back into his seat; his mind was heaving; most desperately, he wanted more information about Cayle. He began:

"But . . . but what . . . how—" He caught himself; and in a low voice described what had happened. When he finished, the girl said:

"You will proceed now to the Name Room; watch for your name, and when it appears go straight to Room 474. Remember, 474—and now, the line is waiting, if you please—"

She smiled politely, and Fara was moving off almost before he realized it. He half turned to ask another question, but an old man was sinking into his chair. Fara hurried on, along a great corridor,

conscious of curious blasts of sound coming from ahead.

Eagerly, he opened the door; and the sound crashed at him with all the impact of a sledge-hammer blow.

It was such a colossal, incredible sound that he stopped short, just inside the door, shrinking back. He stood then trying to blink sense into a visual confusion that rivaled in magnitude that incredible tornado of noise.

Men, men, men everywhere; men by the thousands in a long, broad auditorium, packed into rows of seats, pacing with an abandon of restlessness up and down aisles, and all of them staring with a frantic interest at a long board marked off into squares, each square lettered from the alphabet, from A, B, C and so on to Z. The tremendous board with its lists of names ran the full length of the immense room.

The Name Room, Fara was thinking shakily, as he sank into a seat—and his name would come up in the C's, and then—

It was like sitting in at a no-limit poker game, watching the jewel-precious cards turn up. It was like playing the exchange with all the world at stake during a stock crash. It was nerve-racking, dazzling, exhausting, fascinating, terrible, mind-destroying, stupendous. It was—

It was like nothing else on the face of the earth.

New names kept flashing on to the twenty-six squares; and men would shout like insane beings and some fainted, and the uproar was absolutely shattering; the pandemonium raged on, one continuous, unbelievable sound.

And every few minutes a great sign would flash along the board, telling everyone:

"WATCH YOUR OWN INITIALS."

Fara watched, trembling in every limb. Each second it seemed to him that he couldn't stand it an instant longer. He wanted to scream at the room to be silent; he wanted to jump up to pace the floor, but others who did that were yelled at hysterically, threatened wildly, hated with a mad, murderous ferocity.

Abruptly, the blind savagery of it scared Fara. He thought unsteadily: "I'm not going to make a fool of myself. I—"

"Clark, Fara—" winked the board. "Clark, Fara—"

With a shout that nearly tore off the top of his head, Fara leaped to his feet. "That's me!" he shrieked. "Me!"

No one turned; no one paid the slightest attention. Shamed, he slunk across the room where an endless line of men kept crowding into a corridor beyond.

The silence in the long corridor was almost as shattering as the mind-destroying noise it re-

placed. It was hard to concentrate on the idea of a number—474.

It was completely impossible to imagine what could lie beyond—474.

The room was small. It was furnished with a small, business-type table and two chairs. On the table were seven neat piles of folders, each pile a different color. The piles were arranged in a row in front of a large, milky-white globe, that began to glow with a soft light. Out of its depths, a man's baritone voice said:

"Fara Clark?"

"Yes," said Fara.

"Before the verdict is rendered in your case," the voice went on quietly, "I want you to take a folder from the blue pile. The list will show the Fifth Interplanetary Bank in its proper relation to yourself and the world, and it will be explained to you in due course."

The list, Fara saw, was simply that, a list of the names of companies. The names ran from A to Z, and there were about five hundred of them. The folder carried no explanation; and Fara slipped it automatically into his side pocket, as the voice came again from the shining globe:

"It has been established," the words came precisely, "that the Fifth Interplanetary Bank perpetrated upon you a gross swindle, and that it is further guilty of practicing scavengery, deception, blackmail and was accessory in a criminal conspiracy.

"The bank made contact with your son, Cayle, through what is quite properly known as a scavenger, that is an employee who exists by finding young men and women who are morally capable of drawing drafts on their parents or other victims. The scavenger obtains for this service a commission of eight percent, which is always paid by the person making the loan, in this case your son.

"The bank practiced deception in that its authorized agents deceived you in the most culpable fashion by pretending that it had already paid out the ten thousand credits to your son, whereas the money was not paid over until your signature had been obtained.

"The blackmail guilt arises out of the threat to have your son arrested for falsely obtaining a loan, a threat made at a time when no money had exchanged hands. The conspiracy consists of the action whereby your note was promptly turned over to your competitor.

"The bank is accordingly triple-fined, thirty-six thousand three hundred credits. It is not in our interest, Fara Clark, for you to know how this money is obtained. Suffice to know that the bank pays it, and that of the fine the weapon shops allocate to their own treasury a total of one half. The other half—"

There was a *plop*; a neatly packaged pile of bills fell onto the table. "For you," said the voice; and Fara, with trembling fingers, slipped the package into his coat pocket. It required the purest mental and physical effort for him to concentrate on the next words that came:

"You must not assume that your troubles are over. The re-establishment of your motor repair shop in Glay will require force and courage. Be discreet, brave and determined, and you cannot fail. Do not hesitate to use the gun you have purchased in defense of your rights. The plan will be explained to you. And now, proceed through the door facing you—"

Fara braced himself with an effort, opened the door and walked through.

It was a dim, familiar room that he stepped into, and there was a silver-haired, fine-faced man who rose from a reading chair, and came forward in the dimness, smiling gravely.

The stupendous, fantastic, exhilarating adventure was over; and he was back in the weapon shop of Glay.

He couldn't get over the wonder of it—this great and fascinating organization established here in the very heart of a ruthless civilization, a civilization that had in a few brief weeks stripped him of everything he possessed.

With a deliberate will, he stopped that glowing flow of thought. A dark frown wrinkled his solidly built face; he said:

"The . . . judge—" Fara hesitated over the name, frowned again, annoyed at himself, then went on: "The judge said that, to re-establish myself I would have to—"

"Before we go into that," said the old man quietly, "I want you to examine the blue folder you brought with you."

"Folder?" Fara echoed blankly. It took a long moment to remember that he had picked up a folder from the table in Room 474.

He studied the list of company names with a gathering puzzlement, noting that the name Automatic Atomic Motor Repair Shops was well down among the A's, and the Fifth Interplanetary Bank only one of several great banks included. Fara looked up finally:

"I don't understand," he said; "are these the companies you have had to act against?"

The silver-haired man smiled grimly, shook his head. "That is not what I mean. These firms constitute only a fraction of the eight hundred thousand companies that are constantly in our books."

He smiled again, humorlessly: "These companies all know that, because of us, their profits on paper bear no relation to their assets. What they don't know is how great the difference really is; and, as we want a general improvement in business morals, not merely more skillful scheming to

outwit us, we prefer them to remain in ignorance."

He paused, and this time he gave Fara a searching glance, said at last: "The unique feature of the companies on this particular list is that they are every one wholly owned by Empress Isher."

He finished swiftly: "In view of your past opinions on that subject, I do not expect you to believe me."

Fara stood as still as death, for—he did believe with unquestioning conviction, completely, finally. The amazing, the unforgivable thing was that all his life he had watched the march of ruined men into the oblivion of poverty and disgrace—and blamed *them*:

Fara groaned. "I've been like a madman," he said. "Everything the empress and her officials did was right. No friendship, no personal relationship could survive with me that did not include belief in things as they were. I suppose if I started to talk against the empress I would receive equally short shrift."

"Under no circumstances," said the old man grimly, "must you say anything against her majesty. The weapon shops will not countenance any such words, and will give no further aid to anyone who is so indiscreet. The reason is that, for the moment, we have reached an uneasy state of peace with the Imperial government. We wish to keep it that way; beyond that I will not enlarge on our policy.

"I am permitted to say that the last great attempt to destroy the weapon shops was made seven years ago, when the glorious Innelda Isher was twenty-five years old. That was a secret attempt, based on a new invention; and failed by purest accident because of our sacrifice of a man from seven thousand years in the past. That may sound mysterious to you, but I will not explain.

"The worst period was reached some forty years ago when every person who was discovered receiving aid from us was murdered in some fashion. You may be surprised to know that your father-in-law was among those assassinated at that time."

"Creel's father!" Fara gasped. "But—"

He stopped. His brain was reeling; there was such a rush of blood to his head that for an instant he could hardly see.

"But," he managed at last, "it was reported that he ran away with another woman."

"They always spread a vicious story of some kind," the old man said; and Fara was silent, stunned.

The other went on: "We finally put a stop to their murders by killing the three men from the top down, *excluding* the royal family, who gave the order for the particular execution involved. But we do not again want that kind of bloody murder.

"Nor are we interested in any criticism of our

toleration of so much that is evil. It is important to understand that *we do not interfere in the main stream of human existence*. We right wrongs; we act as a barrier between the people and their more ruthless exploiters. Generally speaking, we help only honest men; that is not to say that we do not give assistance to the less scrupulous, but only to the extent of selling them guns—which is a very great aid indeed, and which is one of the reasons why the government is relying almost exclusively for its power on an economic chicanery.

"In the four thousand years since the brilliant genius, Walter S. DeLany invented the vibration process that made the weapon shops possible, and laid down the first principles of weapon shop political philosophy, we have watched the tide of government swing backward and forward between democracy under a limited monarchy to complete tyranny. And we have discovered one thing:

"*People always have the kind of government they want.* When they want change, they must change it. As always we shall remain an incorruptible core—and I mean that literally; we have a psychological machine that never lies about a man's character—I repeat, an incorruptible core of human idealism, devoted to relieving the ills that arise inevitably under any form of government.

"But now—your problem. It is very simple, really. You must fight, as all men have fought since the beginning of time for what they valued, for their just rights. As you know the Automatic Repair people removed all your machinery and tools within an hour of foreclosing on your shop. This material was taken to Ferd, and then shipped to a great warehouse on the coast.

"We recovered it, and with out special means of transportation have now replaced the machines in your shop. You will accordingly go there and—"

Fara listened with a gathering grimness to the instructions, nodded finally, his jaw clamped tight.

"You can count on me," he said curtly. "I've been a stubborn man in my time; and though I've changed sides, I haven't changed *that*."

Going outside was like returning from life to—death; from hope to—reality.

Fara walked along the quiet streets of Glay at darkest night. For the first time it struck him that the weapon shop Information Center must be halfway around the world, for it had been day, brilliant day.

The picture vanished as if it had never existed, and he grew aware again, preternaturally aware of the village of Glay asleep all around him. Silent, peaceful—yet ugly, he thought, ugly with the ugliness of evil enthroned.

He thought: The right to buy weapons—and

his heart swelled into his throat; the tears came to his eyes.

He wiped his vision clear with the back of his hand, thought of Creel's long dead father, and strode on, without shame. Tears were good for an angry man.

The shop was the same, but the hard, metal padlock yielded before the tiny, blazing, supernal power of the revolver. One flick of fire; the metal dissolved—and he was inside.

It was dark, too dark to see, but Fara did not turn on the lights immediately. He fumbled across to the window control, turned the windows to darkness vibration, and then clicked on the lights.

He gulped with awful relief. For the machines, his precious tools that he had seen carted away within hours after the bailiff's arrival, were here again, ready for use.

Shaky from the pressure of his emotion, Fara called Creel on the telestat. It took a little while for her to appear; and she was in her dressing robe. When she saw who it was she turned a dead white.

"Fara, oh, Fara, I thought—"

He cut her off grimly: "Creel, I've been to the weapon shop. I want you to do this: go straight to your mother. I'm here at my shop. I'm going to stay here day and night until it's settled that I stay. . . . I shall go home later for some food and clothing, but I want you to be gone by then. Is that clear?"

Color was coming back into her lean, handsome face. She said: "Don't you bother coming home, Fara. I'll do everything necessary. I'll pack all that's needed into the carplane, including a folding bed. We'll sleep in the back room at the shop."

Morning came palely, but it was ten o'clock before a shadow darkened the open door; and Constable Jor came in. He looked shamefaced.

"I've got an order here for your arrest," he said.

"Tell those who sent you," Fara replied deliberately, "that I resisted arrest—with a gun."

The deed followed the words with such rapidity that Jor blinked. He stood like that for a moment, a big, sleepy-looking man, staring at that gleaming, magical revolver; then:

"I have a summons here ordering you to appear at the great court of Ferd this afternoon. Will you accept it?"

"Certainly."

"Then you will be there?"

"I'll send my lawyer," said Fara. "Just drop the summons on the floor there. Tell them I took it."

The weapon shop man had said: "Do not ridi-

cule by word any legal measure of the Imperial authorities. Simply disobey them."

Jor went out, and seemed relieved. It took an hour before Mayor Mel Dale came pompously through the door.

"See here, Fara Clark," he bellowed from the doorway. "You can't get away with this. This is defiance of the law."

Fara was silent as his honor waddled farther into the building. It was puzzling, almost amazing, that Mayor Dale would risk his plump, treasured body. Puzzlement ended as the mayor said in a low voice:

"Good work, Fara; I knew you had it in you. There's dozens of us in Glay behind you, so stick it out. I had to yell at you just now, because there's a crowd outside. Yell back at me, will you? Let's have a real name calling. But, first, a word of warning: the manager of the Automatic Repair shop is on his way here with his bodyguards, two of them—"

Shakily, Fara watched the mayor go out. The crisis was at hand. He braced himself, thought: "Let them come, let them—"

It was easier than he had thought—for the men who entered the shop turned pale when they saw the holstered revolver. There was a violence of blustering, nevertheless, that narrowed finally down to:

"Look here," the man said, "we've got your note for twelve thousand one hundred credits. You're not going to deny you owe that money."

"I'll buy it back," said Fara in a stony voice, "for exactly half, not a cent more."

The strong-jawed young man looked at him for a long time. "We'll take it," he said finally, curtly. Fara said: "I've got the agreement here—"

His first customer was old man Miser Lan Harris. Fara stared at the long-faced oldster with a vast surmise, and his first, amazed comprehension came of how the weapon shop must have settled on Harris' lot—by arrangement.

It was an hour after Harris had gone that Creel's mother stamped into the shop. She closed the door.

"Well," she said, "you did it, eh? Good work. I'm sorry if I seemed rough with you when you came to my place, but we weapon-shop supporters can't afford to take risks for those who are not on our side.

"But never mind that. I've come to take Creel home. The important thing is to return everything to normal as quickly as possible."

It was over; incredibly it was over. Twice, as he walked home that night, Fara stopped in mid-stride, and wondered if it had not all been a dream. The air was like wine. The little world of Glay spread before him, green and gracious, a peaceful paradise where time had stood still.

THE END.

THE FLIGHT THAT FAILED

By E. M. Hull

● A new author tells of a plane that started—but didn't arrive, and of a man who was there only if you thought so—but who ruled the strange and vastly important events that happened that night.

Illustrated by Orban

The white crescent of moon flitted from cloud to cloud, as if it, too, was a great, three-engined plane charging high above the night waters of the northern Atlantic.

Twice, when its shape was partly hidden by a woolpack of a cloud, the illusion of another plane with all lights on was so vivid that Squadron Leader Clair stiffened, fingers instinctively reaching for the radio switch, and words quivering on his lips to warn the silly fool out there that this was war, and that, within half an hour, they would enter the danger zone.

Reflections, Clair muttered the second time, damn those reflections of that bright, glowing moon.

In the half light, he turned to Flying Officer Wilson, but, for a moment, so dazzling was the play of moon rays through the domed glass cockpit that—for that prolonged instant—the navigator's body seemed to shine, as if a million glittering reflections were concentrated on his long, powerful frame.

Clair shook his head to clear his vision, and said: "Never saw the moon so bright. Puts one in mind of the old folk tales about the power of the moonbeams to conjure shapes, to reflect strange things that do not exist—"

His voice trailed. He squinted at the man beside him. With a tiny start, he saw that it was not Wilson, but one of the passengers. The fellow said in a quiet voice:

"How goes it?"

It was not the words themselves, but a suggestive quality in the tone that, for a moment, brought to Clair a pleasant kaleidoscope of memory: his family home on the lower St. Lawrence, his mother, tall and serene, his calm-eyed father, and his younger sister soon to be married.

He shook the picture out of his brain a little irritated; they were private possessions, not to be shared by any chance interrogator. Besides, here was merely some faint heart requiring reassurance about the flight.

"Everything's fine!" Clair said; and then in a precise voice, he added: "I'm sorry, sir, passengers are not allowed in the cockpit. I must ask you to—"

For a second time, then, he stopped in the middle of a sentence, and stared.

It was hard to see the man's face; the moon made a dazzling, reflecting fire where it splashed against his skin and body. But what Clair could make out against that surprising glare was finely constructed, a strangely strong, sensitive countenance with gray eyes that smiled a secret smile, and gazed steadily, expectantly, across at him. A tremendously interesting face it was, only—

It was not the face of any one of the passengers.

With a gasp, Clair ran his mind over the passengers, as he had checked them in hours before. Typical, they had been, two dozen of them. A sprinkling of diplomats, a little troop of military men, and a faded group of civil servants, including one government scientist.

He remembered them all, vividly, and this man had not been— Beside him, the stranger said quietly:

"I wish to report my presence aboard your ship!"

"You . . . WHAT?" said Clair; and his amazement was all the more violent because his mind had already led him to the very verge of the truth.

The man made no reply, simply sat there smiling quietly—and the moon, which had momentarily flashed behind a cloud, jerked into sight again, and rode the dark-blue heavens to the south-southwest.

The light shattered into blazing fragments on the cockpit glass, and cascaded like countless tiny jewels, bathing the stranger in a shield of radiance.

Swiftly, Clair drew his mind into a tight acceptance of the situation that was here. His eyes narrowed; his face took on a stern expression. When he finally spoke, it was the squadron leader,



commander of men, who said curtly:

"I have no idea why you have chosen to stow yourself on this ship, nor do I desire any details. It is my duty to place you in irons until we land in England."

With a flick of his hand, he drew his automatic—as the cockpit door opened, and vaguely silhouetted the bulky figure that was Wilson.

"Queerest thing that ever happened to me, Bill," the flying officer began. "One second I was sitting beside you, the next I was lying in the baggage compartment. I must have walked in my sleep and . . . oh!"

His eyes glinted steely blue in the moonlight, as he sent one swift glance at the gun in Clair's fingers, then flashed his gaze to the stranger.

"Trouble?" he said, and snatched his own gun.

It was the stranger who shook his head. "No trouble at the moment," he said. "But there is going to be in a half an hour. They've found out about your cargo, and the attack will be in force."

He finished softly: "You will need me then."

For a single, appalled moment, Clair blanched. "You know about our cargo!" he said harshly; and then, dismayed by his own admission, snapped:

"Flying Officer Wilson, you will take this man to the baggage room, search him, and put the irons on him. If he goes quietly, keep your gun in your pocket. No use alarming the passengers unnecessarily."

"I shall go quietly," said the stranger.

Almost disconcerted by the man's acquiescence, Clair watched him being led through the moonlit cabin. The affair seemed unsatisfactory—unfinished.

Ten minutes later, the first distant streaks of dawn tinted the long, dark waters to the east; but the crescent moon was still master of the sky. Clair sat at the controls, his forehead twisted into a worried frown. Only occasionally did he glance at the flying shape of light that, for so many hours now, had flooded the night and the sea with its brilliance.

His brow cleared finally. Because—there was

nothing to do but carry on. He turned to Wilson to say something to that effect; the navigator's voice cut off his words:

"Bill!"

With a start, Clair saw that his friend was gazing with a tensed fixedness into the mirror that showed the long, dimly visible passenger cabin. His own gaze flicked up, strained against the quiet gloom that was out there. But there was nothing.

The moon glowed in through the dozen windows, probing at the passengers with soft fingers of light. Some of the men were sleeping, heads nodding low, their faces shadowed by their posture. Others sat talking; and their countenances, too, made patterns of light and shade, that shifted, as they moved, into a thousand subtly different umbral effects.

It was a restful scene, utterly normal. A puzzled question was forming on Clair's lips, when once more, urgently, Wilson spoke:

"The third seat from the back—the fellow leaning across the aisle talking to Lord Laidlaw, the British diplomatic agent—it's *him*."

Clair saw. Very slowly, he stood up. He had no real sense of abnormal things. "Take the wheel, sir," he said. "I'll go see what's what."

Wilson said: "I'll keep an eye on you."

As Clair squeezed out into the passenger cabin, the stranger looked up. It seemed impossible that the fellow was able to see him, where there were only shadows, where the moonlight did not penetrate, but he must have. He smiled, said something to his lordship, and then stood up.

Clair's fingers flashed to his gun, then relaxed, as the man turned his back, and, walking to the rear of the aisle, sank into a double seat that was there.

Once more, he looked up, seemingly straight into Clair's eyes. He beckoned Clair to the vacant seat beside him. The squadron leader approached hesitantly. There was something very strange here, but his mind wouldn't quite hurdle over the strangeness.

He loomed over the man, then, frowning, sank down beside him. He said curtly:

"How did you break out of those irons?"

There was no immediate answer; and, for the thousandth time in that long night, Clair grew conscious of the intense brilliance of the moon. Crescent-shaped, it raced high in the heavens to the south-southwest; and it did shining things to the broad, dark belly of the sea. The water seemed as near as the night, and, like ridges of glass, sent up a shadowed blaze of reflections.

Reflections that caught his eyes, and made it preternaturally hard for him to look intently at the stranger, as the man said:

"I didn't think you would believe me if I told

you that the irons would be useless against me. Accordingly, I am letting the fact speak for itself."

Clair made an impatient gesture. He felt a genuine irritation at the other for talking nonsense now, when the zone of danger was so incredibly near.

"Look here," he snapped, "it is within my authority to put a bullet in you if I consider that your presence will endanger this ship. Who are you?"

"Let me understand you," the man said, and his voice was curiously troubled. "You see nothing unusual in the fact that I have broken out of the irons?"

"Obviously," said Clair, "you're one of those people with very small hands."

"I see." The man was silent; then: "This is going to be even more difficult than I imagined. I thought that my escaping from your manacles would release you to a small degree from your normal mental inhibitions."

"What are you talking about?"

"I'm afraid," was the strangely sad reply, "I'm afraid you wouldn't understand. If I could convince you, I would tell you my identity, but your mind is too enthralled by the practical world in which you have your being. By a trick, by means of a moon-ray time reflector machine, I have established my existence in that world, and now you accept me. But I am afraid I shall have to plan my purpose around that limited fact. I had hoped you would free all my enormous strength but—"

He broke off, then finished: "Your friend searched me, and found no weapons; therefore you should not object to letting me sit here till the destroyer planes come—even under the terrible handicap of your reality, I think I can save you then."

Clair had listened to the unfolding words with the growing, empty conviction that he was talking to a madman. Now, for a moment, he cursed silently the incredibly bad luck that had forced such a situation upon him in this, his most important flight. He began angrily:

"I don't know what kind of nonsense you've got in your mind, but I'll tell you this much: if a flight of Messerschmitts attack us in the next forty minutes, our machine guns won't be much good. In any event, they'll be manned by Flying Officer Wilson, Colonel Ingraham and Major Gray. If you have some queer idea that you—"

He cut himself off decisively: "I'm afraid I have no choice, but to put the irons on you again. They're adjustable, and this time I'll see that they don't slip off."

The man nodded gravely, and, without a word, led the way back to the baggage compartment—

Returning forward, Clair paused beside Lord

Laidlaw. He said: "For your private information, sir, the man to whom you were talking a minute ago is a stowaway. I would like to ask you what he said to you."

His lordship was a plump-faced man with keen, grayish eyes. He fixed them shrewdly on the squadron leader. "Funny chap," he commented finally. "Had a hard time seeing him because of the way the moon kept shining in his face. I'm afraid his remarks were very trite, though they stirred some pleasant memories and generally titillated the idealistic side of my nature. He asked me how it went with me and my family."

Frowning, Clair strode on to the cockpit.

The light in the east was stronger; a world of graying shadows that streaked the gray-dark waters; and all the horizon glowed with that first faint promise of a brilliant morning.

Some of the ice began to thaw out of Clair's mind; the new lines of worry in his forehead smoothed, and an eager expectancy crept into his eyes.

"Well"—he finished the low-voiced discussion with Wilson—"we're agreed. I've already set the ship in its new course. If anyone is seeking a rendezvous with us on the basis of secret knowledge of our planned course, they'll have to look again. I—"

He stopped, as the cockpit door tilted open, and the semibald head of Lord Laidlaw was outlined in the gloom of the door's shadow.

"Er," said his lordship, "that fellow has come back into the passenger cabin. You said you had put him in irons, so I thought I'd better mention it."

Clair spun out of his seat. "By God!" he flared, "that fellow's hands mustn't actually be any larger than his wrists. He's been selected for this job, and I'm going to find out what it is."

His fury sustained him, as he hurried along the aisle. But it died abruptly as he paused, and stood, frankly nonplused, staring down at the fellow. The vague wish came that the moon would go behind a cloud, so that he might get a really good look at the interloper.

Before he could narrow his complex thoughts into words, the stranger said in an astoundingly stern voice:

"I hope you have sufficient imagination to be convinced that you cannot imprison me. I assure you that time is short."

Clair sank down in the seat beside the other. "Look here," he said in his most reasonable voice, "you don't seem to realize the seriousness of your actions. Now tell me, how *did* you get out of those irons?"

Through the unnaturally radiant reflections of the crescent moon, Clair saw that the stranger was

staring at him steadily. The man said finally, slowly:

"Squadron Leader Clair—you see, I know your name—I am aboard this ship to save it from what will be, without my aid,—certain destruction. There are two ways in which I can do that. The first is, if you remain ignorant of my identity and allow me, when the enemy comes, to operate one of your machine guns. This is by far the best method because it involves no mental contortions on the part of you or your passengers. You simply continue to accept me automatically as a physical entity. Do anything you please to protect yourself; keep pistols trained on me—anything; but in the final issue, do not try to stop me from using a machine gun."

"Look here"—Clair spoke wearily—"you've already undermined my career simply by being aboard. I'll have to explain my negligence in not discovering you before we took off, and I can just see myself adding that I substituted you for Colonel Ingraham on one of the machine guns."

He stared at the other with earnest conviction in his mind that he was persuading an unbalanced person.

"I'm putting it that way," he said, "so that you will see my side, and realize the impossibility of your request. You've got some idea that we have a valuable cargo aboard. You're mistaken. You—"

He had intended to turn again to persuasion, but a new thought brought him to frowning pause: If he could slowly change the subject and—He said swiftly:

"By the way, what *do* you think we have aboard?"

The man told him quietly; and Clair changed color. He sat for a moment as still as death, all purpose forgotten before the tremendous fact that the man actually did know. Then, white and grim, he said:

"I admit it's a valuable load, but only in the narrow sense of the word. Its value is little more than a hundred thousand dollars. I can't see the German Air Command wasting time trying to trap a plane whose take-off time they could not possibly know, especially when their interceptor planes would be so much better occupied trying to sink the ships of that convoy we passed half an hour ago."

He grew aware that the stranger was staring at him with a melancholy sardonicism. The man said:

"Squadron Leader Clair, there has never been a more valuable cargo shipped. Its destruction changed the course of world history."

"*Its destruction!*" echoed Clair; then he caught himself. He gathered the realities of his situation back into his brain. There was no longer any

doubt: here beside him was a raving madman and—
The man was speaking again:

"In searching me, your friend refrained from removing a book which is in my right coat pocket. I had this book printed under great difficulties in what used to be New York City; and I would like you to glance at Page 27, and read there part of the description of the flight of this ship, and what followed when it was shot down, and lost with all on board."

Clair took the book, and there was not a thought in his head, as he stared down at it. There was a feeling in him that he was dreaming; and the unreal effect was augmented by the way he had to bring the book close to his eyes, and hold it just so to let the moonlight fall on it.

Page 27, he saw, was heavily underscored. The first paragraph, so marked, read:

"The two-engined transport, NA-7044, left its Newfoundland airport at 9:00 p. m., November 26th, and was shot down at 4:12 a. m. the following morning, both times being Greenwich, and in the year 1942 A. D., which was in the curious, old chronology. The chief pilot was Squadron Leader Ernest William Clair, a very practical and conscientious young man. The passengers included Thomas Ahearn, admiralty agent, John Leard Capper, American government physicist, Lord Laidlaw, who was returning to England after having failed in his mission to—"

Clair tore his gaze from the page; his thought scurried madly back to the phrase that had struck him like a blow. "Good God!" he gasped. "Where did you get that plane number? No one knew definitely which plane was going out until late last night."

"You poor fool!" the stranger said sadly. "You still think in terms of your reality. If you continue so blind, there is no hope."

Clair scarcely heard. He was jerking up his wrist, peering at the watch that was strapped there. He felt a strange heady shock, as he saw the time.

It was exactly three minutes after four.

For Clair, the strange thing in that tensed, startled moment was that he became aware of the throbbing of the engines. The sound, so long subdued by familiarity that it scarcely ever touched his consciousness, was a whine that sawed along his nerves. His brain twanged with that poignant and ceaseless roar.

Through the fury of the beating motors, he heard himself say coldly:

"I don't know what your game is, but the very elaborateness of your preparations proves that the most drastic measures are in order. Therefore—"

He paused wildly, stunned by the dark and deadly intention in his brain: to shoot, not to kill, but to incapacitate.

The stranger's voice cut across his stark hesitation:

"All this that you have seen and heard; and it means nothing to you. Does your mind simply reject the very intrusion of a new idea? What is there about Good that, at certain stages of its development, it falters, and stands trembling and blind on the edge of the abyss, while Evil, ablaze with a rejuvenated imagination, strides to its dreadful victory?"

"I can see now that for me, here, success in the great way is impossible. But try, try to lift your mind above this binding sense of duty and—let me handle the machine gun. Will you promise?"

"No!" Clair spoke with the distinct finality of one who was utterly weary of the subject. Squadron Leader Ernest William Clair, D. F. C., went on: "You will refrain from further attempts, please, to embellish on this fantastic story. When we reach England, I shall have you arrested as a spy, and your explanation will have to be very good indeed if you hope even to account for what you have already revealed. It will be assumed—and it is you who will have to prove otherwise, that your purpose aboard this ship was destructive and—"

His voice faded. Clair swallowed hard, and the thought that came was like a black tidal wave that swept him to his feet with a cry. He drew his gun, and backed hastily along the aisle, holding it tense.

From the corners of his eyes, he saw heads jerk up, and passengers twist in their seats. He had their attention, and he said swiftly, in a clear, ringing voice:

"Gentlemen, we have a stowaway aboard; and, as I am unable to obtain a coherent story from him, I must assume that he might have smuggled a bomb aboard. He keeps repeating that this ship is to be destroyed within fifteen or twenty minutes—the exact hour he mentions is twelve minutes after four—so it could be a time bomb.

"*Hunt for that bomb!* Everyone, out of your seats! This is no time for niceties. Down on your knees, search every corner, every compartment—and someone scramble into the tail. Use flashlights, but keep them pointed at the floor. Now, hurry!"

An officer with a deep voice said quietly: "Sirs, let us make this thorough. Civilians and military are about equally represented aboard. The civilians take the rear, the soldiers the front."

Clair added swiftly: "I suggest a cursory search of one minute, followed by a detailed examination. Is that satisfactory, Colonel Ingraham?"

"Excellent!" said the colonel.

It was the strangest thing in the world, standing there in that swift, darkened plane, half watching the shapes of the men, as they crawled around, peering under seats, poking into bags, examining racks—half watching the stranger, who sat like a graven image, face turned into the flood rays of

the moon, which was farther to the rear of the ship now, its strong, refulgent light pouring in through the windows at a distinct angle.

The man said slowly, without bitterness, but with infinite sadness:

"This futile search, when all you have to do is to look in your own minds. The seeds of your destruction are there. If this ship is lost, freedom goes with it. There are no other key points in our time. Once more: will—you—let—me handle that machine gun?"

"No!" said Clair; and there was silence between them in that hurtling, moonlit ship.

The white moonlight made a network of dim light, casting long shadows across the dark cabin, doing distorting things to the straining faces of the men, as they searched. Flashlights glowed cautiously at brief intervals, peering into dark corners, glaring hard against shiny surfaces.

Three—then five minutes; and they were all back in the cabin. They formed a dark cluster around Clair, where he stood, his revolver trained on the interloper. Their faces, out of the direct line of moonlight that streamed through the faintly shuddering windows, formed a series of roughly circular light splotches.

Only the stranger was in the light, and he was silent. Clair explained briefly what had happened, and what precautions he had taken; he finished:

"So you see, we had him in irons twice; and each time he came out here. Did you examine them, Lord Laidlaw, when you were in the baggage room, as I suggested?"

"Yes." The nobleman spoke briskly. "They were still locked. I should say that we have here one of those curious people who can contract their palms to the size of their wrists."

"In my opinion," said Colonel Ingraham, "this man is mad. The story he told you is definitely that of an unbalanced person. The solution is to put the irons on him *out here*, and have him under guard till we land."

"There's one point," interrupted a very clear, incisive voice. "This is Ahearn speaking, by the way, Thomas Ahearn of the admiralty—one point: You mentioned that he showed you a book, and that it contained—what?"

Clair handed the volume over quietly. "If you'll bend down toward the floor," he suggested, "you can use your flashlight on it."

Men pushed past him to get around the admiralty man; then a light gleamed; then—

"Why, it contains some queer account of the flight of this plane, with all our names."

"Is my name there?" came a new voice from the back of the mass. "Brown—Kenneth Brown!"

"Yes, it's here." It was Ahearn who answered.

"But that's impossible!" Brown ejaculated. "I

didn't know until two hours before we left that I would be on this plane. How could anybody find that out, write it up, and publish a book about it—and, for Heaven's sake, why would they want to?"

Clair stood very still; and the queerest feeling came that he was listening to his own voice saying these shallow, useless words, making protests about the impossibility of it all, crying out to the idolatrous god of logic with a parrotlike fanaticism, and never once *thinking* about—anything.

He glanced automatically at his watch, tensed a little, and said tautly:

"Gentlemen! If you will allow me, I shall ask the prisoner one question."

It took a moment for silence to settle, but he needed the time to frame the incredible question that was in his mind. He said finally:

"Stranger, when did you come aboard this ship? I said—when?"

The man's eyes were steady pools; his face grew noticeably more distinct. "I heard you, Squadron Leader Clair. To you alone, for your consideration, I say: I came aboard about forty minutes ago. Think of that; think it through; don't let it go."

Exclamations blurred across his last words; then Colonel Ingraham snapped angrily:

"Sir, we haven't time to bother with this person. Let us iron him, and set a guard over him."

Clair's brain was like rigid metal. The stiff feeling came that he ought to turn and apologize to the others for his utterly ridiculous question. But there was a fascination in his mind that held him spellbound; and finally a thought that was a twisting, irresistible force; he said:

"What is your real reason for being aboard this ship?"

The reply was a shrug; then: "I'm sorry; I see I was mistaken about you. I've already told you in effect that this is a key flight in history. It *must* get through; it can only get through with my help."

He shrugged again, finished: "I notice that you have shifted the course of the ship. That is good, that is something. It has already broken the hard thrall of events, and the attack will be delayed. But that delay will be small—out of all proportion to the extent of your change of course. Seven, eight minutes at most."

For a second time, Clair was silent. The thought came that the shadows of the early morning and the dazzling, crescent moon were affecting his mind. For incredibly, he was not rejecting a single word; for him, for this moment, this man's every word formed a species of reason and—

And, he'd better be careful; or he'd be out of the service for being a credulous fool. He, whose

nickname at training school had been Solid-head Clair, *credulous!*

So swiftly came revulsion. He shook himself, and said, striving for coldness:

"Now, that we have verified that there are no bombs aboard, I think Colonel Ingraham's suggestion is the best: In irons, under armed guard, out here. Colonel Ingraham and Major Gray, I suggest you man the machine guns to which you were previously assigned—"

His voice trailed off, for the stranger was staring at him with a bitter anguish.

"You blind fool. I can only exist if you sustain the illusion that is me with your minds; and that illusion would collapse instantly if I had to sit out here in chains, under guard. Accordingly, I must leave; and the first hope, and the best, is gone. Now, you must *know* my identity. When you need me, call—but there will be no answer unless you call with understanding. Good-by."

For an instant, so determinedly did Clair's mind refuse to accept the absence of the form that had been there, that he blinked.

Then the thought came that the moon was too bright, and that dazzling reflections of its white, too white rays were playing tricks with his eyes. And then—

Reality penetrated the absence, the utter absence, of the stranger.

They searched the ship, as the dawn in the east grew noticeably stronger, casting its pale, wan glow over all the sky ahead and all the forward sea. Only the west behind them remained dark; and the moon was there, a shining, hurtling shape, yielding not yet to the brightness of the new day.

And it was exactly four twelve by the glowing hands of Clair's wrist watch, as the men grudgingly gave up their vain search.

"Funniest thing that ever happened!" a voice tilted against the dimness. "Did we dream that?"

"I could swear he dived for the floor just before he vanished," said a second voice. "He must be somewhere. If we could shift some of that baggage—"

"At least"—it was the man, Brown—"we've still got his book."

Twelve minutes after four.

Clair raced along the aisle to the cockpit. "Anything?" he said to Wilson. "See anything—any planes?"

He stared with Wilson, and with Major Gray, who was at the port machine gun, into the brightening world. But there was nothing, not a speck, nothing but the sky and the sea and the—moon!

It glittered at him, and hurtled along through the blue-dark heaven; and the thought came to

Clair: the silvery crescent moon—creating—reflections—

4:14 a. m.

And he felt no relief; for he *had* changed the course, and the man had said it would mean only infinitesimal delay.

Minutes, and then—bullets crashing into them all, a terrible fusillade that would burn and tear and destroy the whole world—unless—

Unless he called with understanding of identity! But how could he ever understand? There were no clues, nothing but a scatter of meaningless words, nothing but—death.

A man whose hands flicked out of handcuffs, who talked of key points in history, who had a book that described this flight, and the destruction of all on board, described it as a past event. The book—

He was out in the dimness that was the cabin. "The book!" he called. "Who's got the book that chap left?"

"Right here," said the man, Kenneth Brown. The passengers were all in their seats. "I've been reading out passages. Damnedest, queerest book I ever laid eyes on. It's actually got my name in it"—he couldn't seem to get over the wonder of it—"my name, imagine that. You've got to give these Germans credit—"

The funny thing, Clair thought—no, the incredible tragedy of all this, was that their minds wouldn't accept what their eyes had seen. Something shaped like a human being had come into their midst, then vanished before their eyes—and their brains simply skittered over the impossible event; and now they sat here like so many spectators who had been entertained by a magician, wondering in a thrilled, unworried fashion how the devil the trick had been worked.

Danger, the black and deadly danger—they saw it not. But blindly chattered on about everything except the reality.

"Show him the frontispiece!" A voice cut into his burning reverie. "That's the real give-away. It's in German."

The man, Brown, echoed: "Absolutely, the whole frontispiece in German. Look, the name of that city."

The book was held up into the light of the moon; a shadowed finger pointed. Clair strained and read:

*Zweiundvierzigste Strasse
Hitlerstadt, Nord-Amerika
743 N. H.*

"What gets me," said Brown, "is that 743 N. H. at the bottom. It's senseless."

Clair said grayly: "*Nach Hitler*"—it was funny how he knew, but he did, with utter certainty—

"after Hitler. Seven hundred and forty-three years after. Hitlerstadt is, of course, the city we now call New York."

There was a ripple of laughter, and somebody said: "Wha' did he say? Wha' did he say?"

The sentence was repeated, but the man did not echo the laughter. "Oh," he said, "Oh, I'm glad somebody's got a sense of humor. I've just been sitting here thinking if this might not be some manifestation of a secret enemy weapon. And I must say, I couldn't think of how they could have worked it."

There was more laughter. It was amazing to Clair how good-humored they had become. Somebody whispered to him: "That's Capper, the scientist."

"I know!" Clair nodded. He was thinking desperately: If he could keep them thinking it was all humor, and yet gain information— He said, straining for lightness, but heavy and cold with the import of his words:

"Professor Capper, we might as well carry this through: Is there a theory of time which would explain how an event which has already occurred can be changed, so that something entirely different would transpire?"

"Of course, of course." The scientist spoke irritably. "The world is full of nonsensical ideas. Everything's been thought of—everything. Trust human beings to waste their time with such stuff."

Clair fought an inner battle to keep his fingers from grabbing the other's neck, and shaking the explanation out of him. The sense of urgency in him was so great that his voice trembled as he said:

"For the sake of curiosity, what is the theory?"

"Why, it's nothing but the old factor of—"

The plane swerved in a dizzy, twisting dive that sent Clair hurtling against a seat. He caught the plush back of the chair with a grip that nearly tore his muscles from his body.

There followed a sickening moment where the only sound was the shrill whine of the engines in the full fury of a power dive; and then—

Glass splintered. Bullets smashed against shiny woodwork, and screeched on metal. From somewhere near, a man screamed in the agony of death. Clair cursed aloud with a terrible understanding. The great transport plane had been swept from tail to nose by machine-gun fire.

He managed to wedge his body into the comparative stability and safety of the seat opposite the scientist, Capper—and through the window he saw the sliver-thin planes of the crooked cross, black pencils against the lightening sky.

Three of them darted past his narrow line of vision, like black angels gleaming in the moonlight, reflections of malignant beauty—

The thought came to Clair that he ought to be struggling to reach the cockpit, and that he was ruining himself by sitting here, ruining his great record, ruining himself in the eyes of the passengers.

Ruin—utter ruin—

And it mattered not. The thoughts were in his mind, but they were like burning phantoms, consuming their own substance, completely uncorrelatable to physical action. In his brain was one purpose, one unquenchable and tremendous purpose.

He leaned over to the scientist; he half shouted: "What is this theory of time?"

He braced himself for a verbal explosion, a tongue flaying that would sear his brain; an opinion about an officer neglecting his duty that would sting in his memory throughout all time. And there was a picture in his mind, a vivid, terrifying picture, of how the question he had asked would sound in court-martial testimony.

It mattered not. All the certainties, the motivations that had ruled his brain in the past seemed remote and unreal. There was only—

"Professor Capper, that time theory of which you spoke?"

"Young man," came the reply, "you amaze me; your courage, your calmness— Thank you, sir, for being so matter-of-fact. Your example saved me from making a cowardly fool of myself. But I'm under control now—and you're right, there is no reason why we shouldn't discuss science or pseudoscience—"

Clair stared blankly; then came a brief, dark stound at the other's unexpected reaction. It was a form of hysteria, of course; and there was ego here, an utter acceptance that a plane commander would, in a crisis, waste his time talking to a passenger. But—

For *his* purpose, it was as if God Himself had reached forth His magic hand, and rendered everything easy. Fighting for control, Clair said:

"Professor, the time theory—give it to me as succinctly as possible."

"A lot of nonsense, of course," the man rumbled, "but fascinating to talk about under such conditions. Probable worlds! Imagine that—"

His voice trailed off; Clair heard him muttering something more about nonsense—and trembled so violently that he could hardly stay in his seat.

"Probable worlds? What do you mean?"

"What I said. Suppose the ancient Sea-peoples had conquered Egypt; suppose Xerxes had defeated the Greek States; suppose the Moors had overrun Europe; suppose the Germans won this war; suppose—"

"But how does that fit the theory?"

In the light of the moon, the thin face of the professor frowned at Clair: "Don't be so impa-

tient. There is no hurry. The attack isn't over yet; and we might as well talk. I want to thank you again for making it possible for me to face this situation with a fearlessness I never expected was in me. It feels great, wonderful. It—"

The twisting thought came to Clair that he would have to tell this loquacious *savant* the truth. He parted his lips—and then, through the window, he saw the black shape swoop in from the north.

"Duck!" he yelled, and jerked himself flat on the aisle floor, as the plane crackled and reverberated with the bullets that tore along its length.

A heavy body collapsed on top of Clair. At least, it felt unbearably heavy at the moment of fall; only it was surprisingly easy to lift the professor's slight form back into his seat. The man crouched there, coughing a little, mumbling to himself.

Cold with the certainty of what had happened, Clair shook the drooping body.

"Professor—"

The head lifted wearily; and a strong glow of moonlight reflected from a pair of small, watery eyes.

"Never so proud," came the mumble. "Never thought I'd face death like this. How can we lose this war, if even I—"

"The time theory!" Clair croaked.

"Oh, yes, the old business of probables—You're the bravest man I ever met, squadron leader, to carry on such a conversation; and I'm not so bad myself. Tell them that, eh? Tell them we talked about . . . about time theories, about worlds and men that might have existed if—something hadn't happened. Of course, to the theorist, those worlds do exist, that is, some projection of them, something of the spirit that carried on—"

"Professor, that stranger—he claimed to be from the future that would exist if we won this war—"

For an instant, after Clair had spoken, the scientist's watery eyes brightened; he mumbled: "So that's what you've been getting at. But it's impossible. I'll tell you why—if he was only from a probable world, he couldn't have materialized here."

"But he didn't materialize. That's what he said. That's why he could slip out of our irons. He was only a reflection of—and this is his own phrase—of a moon-ray time reflector machine, and that we had to accept the illusion mentally before it would even exist as much as it did. Professor—"

"Impossible. You've forgotten the book he left. That was material."

"But, sir"—Clair had a hopeless feeling—"he said he had that printed under great difficulties in Hitlerstadt."

"Spirit"—the professor's voice was a remote,

husky thing; and it was all too obvious that his mind had gyrated back to an earlier theme—"that's it, spirit like ours cannot die . . . proud that I personally took a bullet without flinching, and after all my fears, too . . . proud—"

He crumpled like a house of cards; and Clair who had seen death too often to doubt its presence now, climbed over the contorted body in the aisle. He was shaking a little, but his mind was quite clear. Whatever hope there might have been of some mysterious superman coming to the rescue from a world that had yet to prove its right to exist—that hope was gone now.

The only man who knew enough to fill in the all-necessary details of identity was dead, and that meant—

The time had come to fight.

The two men in the cockpit snarled at him like beasts as he entered. Clair saw, from narrowing eyes, that Wilson's right arm hung, a limp, tattered, bloody object at his side. Major Gray was at the port gun, hugging it to his shoulder. Both men flashed him the desperate expressions of human beings determinedly facing a hopeless martyrdom. It was Wilson who raged:

"Where in hell do you think you've been, you damned—"

There was, Clair recognized in a biting self-condemnation, justice behind those lashing words. But they were born of maddening pain, and served no useful purpose. He knew exactly what to do, what to say; his answer grew *alive* out of events:

"Silence!" He flared the words, because only anger could penetrate here. He sneered: "So you've given up in your hearts, both of you. Think we're licked, eh? Going to go on shooting to the last, but deep in your minds you know it's all hopeless. What can a transport do against fighter planes?"

"Shut up!" He snapped the words at Major Gray, whose lips were parting for speech. "I know exactly what you're thinking, but I've just seen a man die, who knew how, and if anybody in this cockpit disgraces him, I'll take that person's body, and throw it out of the ship. Only men are going to have the honor of going down with this plane."

Before that blazing tirade, the two men, Wilson and the major, exchanged one amazed glance. Gray shrugged his stocky shoulders with the unmistakable gesture of a man who recognized stark insanity when he saw it.

Clair didn't feel mad. His whole body was aglow with life that quivered like an itching finger on a hair trigger. Never had he been more alert, more conscious of the utter joy of being.

He saw the torpedo-shape silhouette for an instant against the moon, and as the Messerschmitt

dived toward them in a long, slanting curve, he crouched over the starboard gun, his mind rock-steady, his whole body intent on aiming.

After a moment, he compressed the trigger gently, and held it back.

It took a moment, then, for his eyes to recover from the blinding light that ballooned into incandescence where the Hun ship had been.

A shrill yell sounded from Wilson: "Good boy! He blew up!"

The remote thought came to Clair that men in crises were chameleons in their emotions. His navigator who had hated with violence, now praised in a storm of approval.

That thought passed because—he noticed the oddness with a start—there was a difference in the feel of the gun. It was bulkier. But it felt, strangely, immensely lighter; immeasurably easier to handle.

But there was something else, a mind-soaring difference: it had glowed green against the half light of the early morning sky; the whole shiny barrel had tinted a pale, iridescent green.

And the funniest part of all was that he had not the slightest doubt of what had happened:

He was firing a ray of intolerable energy.

As he crouched, he was conscious for the first time of the quiet confidence that was in him, the certainties. Unlike anything he had ever known, a sense of destiny.

He waited for the next attack from the unsuspecting enemy, and became aware of another unusualness.

It required a moment to understand what it was: silence!

Clair frowned; and then again he nodded to himself in perfect comprehension. There was no roar of engines. Which was utterly natural: the spaceship that had been NA-7044 wouldn't be using gasoline engines.

It glided on with a glasslike smoothness, a superb armored creature of deep space, idling along with an impregnable casualness.

Clair stood up, and slipped into the seat before

the duplicate controls. "I'll take over," he said very gently to Wilson. "You get to the medicine kit, and do something for that arm. We'll land in a few minutes."

As he finished speaking, his eyes searched the controls; and he smiled with a sudden, heart-quickenning glee. The controls, though they were almost the same, were a shade different. The difference between life and death.

The accelerator was like some supersensitive pressure gauge; it reacted to the barest touch. With boldness Clair pressed it hard—and reeled from a moment of ultraspeed. He saw the great, familiar sweep of England's shore.

They came down with scarcely a jar. The crescent moon was a pale shadow in the middle-western sky, as Clair stepped to the ground beside Colonel Ingraham.

The colonel swelled a little. "We certainly made it hot for those Boches. I blew two of them up myself. Must have set off their bomb nests."

For an instant, the officer's utter obliviousness to what had really happened, was startling. But actually, Clair thought finally, it explained something that had been puzzling:

The superman had been able to materialize because Professor Capper *had* identified his origin, but, more than that, because the scientist had, in his superb death, provided an intense source of nervous exaltation—the purest of energies.

Enough energy around which to project, not only a dynamic will, but a concrete spaceship.

Why was the spaceship still here? That had been the puzzling thing until Colonel Ingraham spoke, and which now was as clear as light:

The people of freedom's great future, the only world now, were not simply trusting to the fact that a flight, which had once failed, had, by their intervention, succeeded.

Men were too obstinate, too blind, too practical; so—

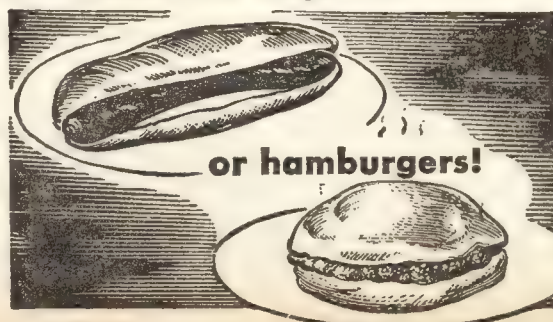
The superman that had been Squadron Leader Ernest William Clair smiled a secret smile. He was here to see that a world would be born—properly.

THE END.

NO FINER DRINK . . . with hot dogs . . .

PEPSI-COLA
B&B U.S. PAT. OFF.

Energy... in the big big bottle





SOME DAY WE'LL FIND YOU

By Cleve Cartmill

● Marten was looking for a man; he had some money for him. The man was looking for Marten—to avoid him. He was also trying hard to get hold of that money, but there was a dangerous economic setup brewing in the invention he had, and there were those who would have liked a little sudden death scattered around—

Illustrated by Orban

I.

Mr. Cuppy ran a savage eye down the list of payments to Hunt Club, Inc. When he noted the total to date, his thin, sharp face screwed into a mask of rage. He flicked sparking eyes at his waiting assistant in the briefest of glances, and jabbed a stud on his desk with a shaking finger.

Then he directed a burning look at the young

man who had totted the account, who stood waiting for instructions.

"Well?" Mr. Cuppy barked. "What are you waiting for? For your arteries to harden?"

"N-no, sir," the young man stammered. "I thought—"

"Ha!" Mr. Cuppy exploded caustically. "Not in my memory. Get back to your work."

As the young man fled, a face filled the desk screen before Mr. Cuppy. The face was large,

young, with calm dark eyes and a mouth which bespoke a kind of deadly humor.

It was a face to command the respect of men, for it was quietly arrogant, sure of its power, poised, self-possessed. It was a face before which employees would touch their foreheads with index and middle fingers. And so they did—all but Mr. Cuppy.

"Junior," he said with gentle, quiet fury, "just what are you trying to do?" His voice began to rise. "Break up Trading Posts, Inc.?" This was as much of a roar as Mr. Cuppy's aging lungs could manage.

The face in the screen cracked a tiny smile. "What have I done now, Mr. Cuppy?" The face sighed. "When my father turned this company over to me, he told me there'd be days like this."

Mr. Cuppy thrust the list of payments at the screen. "Look! Just take a look! For six whole months we've been paying out good money—good money, mind you—to Thorne Raglan to find a couple of space tramps. Did he find them? No! And are you still throwing good money after bad? You are. Loren Bradley, this nonsense must stop!"

"But, Mr. Cuppy, I need those men."

"Why? You can hire a hundred, a thousand good engineers for half what you're paying just to find Ben Wellman and . . . and . . . what the devil's his name?"

"Harold Stopes."

"You've scoured the universe," Mr. Cuppy went on testily. "And now"—he paused, bit his thin lips in an effort to keep his voice from trembling—"you bring a man from Mars to hunt for them and . . . and, damme, pay his *transportation!*"

Mr. Cuppy spluttered to silence, glared at the image of Loren Bradley IV. Bradley's broad mouth twitched with amusement.

"Mr. Cuppy, I have more bad news for you."

Mr. Cuppy glared.

"Maybe you'd better come to my office," Bradley suggested. "If you see what I'm buying, you may approve. I suspect that you can still appreciate beauty."

"Pah!" Mr. Cuppy spat, and cut the circuit.

He tapped the list of expenses with a thoughtful finger for a moment, then strode into the corridor on short, brisk legs. He stepped on a moving ramp, ignoring employees who touched their forehead at his green badge, and was lifted to the next floor. He padded along the corridor, breezed through President Bradley's reception room without a nod to the pretty girl at a desk and thrust through Loren Bradley's door.

"Now what?" he demanded.

Bradley waved a large hand at a girl in civilian tunic. "Miss Jones, this is Mr. Cuppy, my chief accountant and man behind the throne. He runs

this organization, in his way. Mr. Cuppy, touch the head to Jennifer Jones, our newest employee."

"Umph!" Mr. Cuppy grunted, and inspected her.

His eyes did not light with appreciation of her startling blond beauty. No smile of delight touched his mouth as he noted her shrewd blue eyes, her lithe form, her long brown legs, her small feet and graceful hands. He was sternly silent.

"I'm terribly excited over it," she said in a voice which did not indicate any excitement whatever. "Imagine me, Jenny Jones, working for Trading Posts. Why, it's the biggest thing in the universe. Daddy says it is the universe."

Mr. Cuppy turned sourly to Bradley. "Why tell me, Junior? You can surely hire clerks without tying up the whole organization in a verbal spree." He turned to Jennifer. "I am unable to express my wild delight, Miss Jones, in the fact that you are to be one of us. This old heart throbs like a Jovian spacer, this gray head spins like a Jovian moon. Good day!"

He turned abruptly away, but halted when Loren Bradley spoke sharply. "Cuppy!"

Mr. Cuppy turned to see Bradley's face no longer pleasant, to listen to words without a trace of amusement.

"Mr. Cuppy, you will carry Miss Jennifer's salary—a large salary, by the way—and her expenses as a charge to the Wellman-Stopes account. You will be informed of the amounts."

Mr. Cuppy purpled. "You will not speak to me in that tone of voice, you young puppy! I'll take orders, but not like that."

Bradley smiled, not with amusement. "When I please, I shall speak to you as I please, Cuppy. It pleases me now to apologize. However, the order stands."

"And what," demanded Mr. Cuppy, "is this young lady to do? We've spent a fortune already with Hunt Club, Inc. Is she Thorne Raglan's niece? Are we to add nepotism to our business crimes?"

A soft chime interrupted Bradley's answer, and he spoke into his communivox. "Ah?"

"Mr. Raglan on your visivox, sir."

"Connect me."

Thorne Raglan didn't look like a hunter. He was moon-faced, with a glow like that goddess of the night. This effect, perhaps, was wrought by small blue eyes that twinkled over mounded pink cheeks. His short pug nose was almost lost in an expanse of geniality.

"Lorry," he said to Loren Bradley IV, "I touch the head. How's the old space robber?"

"Hello, Thorny," Bradley said quietly. "I'm pretty busy, as a matter of fact."

"Then I won't keep you, chum. Brief, that's Raglan. Everything's brief about me but my waistline and my bills. Eh? Well, here it is, short as a dead comet's tail. Craig Marten ar-

rives at Spaceport 9 in thirty minutes. Got it? Good-by."

"Wait!" Bradley said. "I want to ask a couple of question. Your reports on Wellman and Stopes, and your biographical material on Marten show that the three could have met at one time on Pluto. Do you know anything about it?"

"Certainly, Lorry. That's why I'm bringing Craig from our Mars office. He's been a damned good director, but he has at least seen our quarry, which is more than the rest of my staff can say. You know, I've told you that I suspect one or another of our men has seen them here, but, hell, how would he know? I'll turn all my dope over to Craig and he'll run 'em down in short order."

Bradley pounced on the hint of new information. "Here? What makes you think they're here?"

"I was going to surprise you, Lorry," Raglan said affably, "but you caught me up. They've been traced here—by Craig."

Bradley's dark face lighted with an unaccustomed look of pleasure. "Good work, Thorny. There'll be a bonus for you."

Raglan's chuckles, as he cut off, were mingled with a low moan from Mr. Cuppy.

"What am I going to tell the stockholders in my next report?" he wailed. "Do you realize, Junior, that more than sixty million persons have actual cash invested in this corporation? Are they going to like their quarterly dividend to be cut because you want to meet a couple of tramps?"

"I'm sure you can fix it, Cuppy," Bradley said with a half smile. "You always have, for three generations of us. Now. You asked what Miss Jones would do to earn her salary. She's to make an acquaintance, develop it into friendship, and marriage if necessary."

Mr. Cuppy was so startled he could say nothing for a moment. When he did speak, the fire was gone. "A matrimonial bureau," he murmured sadly. "What next?"

Bradley covered a combination of desk studs with his fingers. When the chime sounded, he spoke into his communivox.

"Spaceport 9 immediately. Bring him here."

"Yup," said a voice.

Bradley cut the circuit, raised an eyebrow at Jennifer Jones. "You're clear on everything?"

"I believe so," she said crisply. "How soon shall I meet him?"

"Within the hour."

"Is my apartment ready?"

"I don't know," Bradley said. "Check with my secretary on your way out."

She turned to Mr. Cuppy. "I am very happy," she said in tones which held no trace of happiness, "to be with you, Mr. Cuppy. I touch the

head." She did so, and swung out on slim brown legs.

Mr. Cuppy watched her with hard, light eyes, then turned to his employer. There was no bluster in Mr. Cuppy now. He was in deadly earnest. His voice was quieter, and did not quaver any more.

"Junior, please explain this."

"Sit down, Mr. Cuppy." He waited while the little accountant did so. "It's very simple. I think I can trust Craig Marten, because Thorne Raglan vouches for him. But I can't afford to trust him. On this matter, I can't trust anybody, except perhaps Jennifer Jones. She's got to be all right, because I can lift a finger and ruin her. She knows it, and will deliver."

Some of Mr. Cuppy's crispness came back. "Deliver what, for the love of Heaven?"

"Wellman and Stopes, Mr. Cuppy. When Craig Marten finds them, she will inform me, and I'll take care of them personally."

"But Craig Marten is hired to inform you," Mr. Cuppy protested. "Why double the expense?"

"And suppose," Bradley said, "that Marten decides to double-cross me. Suppose he is offered more than I can pay. Miss Jones will be a good investment in that event."

"But what makes you suspect him? And where will a couple of no-goods like Wellman and Stopes get that kind of money?"

"I *don't* suspect him, Mr. Cuppy. But I can't afford not to go through the motions. That kind of money? Mr. Cuppy, I have information which hints at a large fund, plenty large to buy Craig Marten. If that should happen, and if Wellman and Stopes should elude us, we are done for, you and I. Done for, Mr. Cuppy."

"Don't be so blasted mysterious, Junior!" Mr. Cuppy snapped. "What will they do, drop a nova on us?"

Bradley sighed. "The story is too long and complicated to tell now. I haven't time. But I tell you that the very existence of Trading Posts, Inc., depends on our finding Wellman and Stopes before it is too late."

Mr. Cuppy rose. "Very well. Do you remember what I said when this search was launched? I said to put a two-dollar want ad on telecast. But no. You wanted to do it in the grand manner. I have a word or two to say—"

Craig Marten had finishing packing, ordered a bottle of Mercurian wine, and settled back to enjoy the sunny liquid when a knock on his state-room door brought a mild oath to his lips. He pushed plastibags out of the way and answered the knock.

The long, homely handsome face of Jorg van Hooten was not quite as serious as usual. It seemed to Craig that the young diplomat must

have received cheering news. He was almost smiling.

"I know you wanted to rest on this last leg of the drop," Van Hooten apologized, "but I've just had a radiograph."

"Come in, come in. Sit down. I'll get another glass."

The two young men drank their usual toast.

"Freedom," they said, and touched glasses.

"So?" Craig said. "What's new?"

"Organized unrest," Van Hooten replied. "It will help. A hundred colonists killed at Mars Port Main when they tried to capture a Trading Post spacer. Maybe Congress will listen this time. The first rumbling of revolt should bring them upright."

Craig's space-tanned face set in lines of puzzlement. He turned his glass with lean brown hands and frowned into it, eyes dark with thought.

"Aren't you jumping the gun, Van? They're not organized. One spaceship wouldn't do them much good. They need a fleet."

Young Van Hooten pushed aside this minor point. "They're not after the ships themselves. You know there are hundreds in the Mars bone yard. Ships are scrapped on Mars because their metal is worth more there than on Earth. Many of them could be put into serviceable condition—if. If the Baltex formula could be duplicated."

"I still don't get it."

"Why, Craig!" Van Hooten was astonished. "Why do you think Martians are barred from approaching spacers nearer than five hundred yards? You know they can copy anything once they nose around with their mind tendrils. Let one Martian into the control room of a spacer, and Trading Post's monopoly is broken. That was the reason for the attack. It was unsuccessful, yes. But there'll be others. Some day, one will be successful."

"Well, I don't like it." Craig's long jaw slid out like a landing fender. "I've got here"—he tapped his waist, around which, under his shorts, was strapped a belt—"the answer. If I can deliver this fund to Wellman and Stopes, we won't need Baltex."

Van Hooten shrugged. "It's the better part of strategy meanwhile, Craig, to play up this revolt angle. If the World Congress will add a rider to the agreement with Trading Posts, allowing the planetary colonies to trade among themselves, we will gain time and save lives. Because how do we know you can find Wellman and Stopes?"

"Remember the Hunt Club slogan," Craig said grimly. "Some Day We'll Find You."

"Some day isn't good enough, Craig."

"That day isn't far. I feel it."

Craig's mouth set in a stubborn line. From the moment he had consented to deliver this fund to the vanished engineers, he had had conflicting

problems. He had to hide his purpose from the Earth central office, and he didn't like it. He and Thorny had knocked around the System together.

In addition to his distaste of not playing quite fair with his boss, Craig distrusted political deals. Look where such deals had brought the System. He didn't know the details, but it was perfectly obvious that a deal had been made between Pier Duvain and Loren Bradley some generations ago when the former took off on the first spacer for Mars.

Since that time, the Bradleys had maintained a monopoly on trading. All shipping to and from the colonies cleared through Trading Posts, Inc. The colonies were held in economic bondage of a sort, their pattern of life determined by the mother planet.

One thing was clear. The colonies would break away eventually, by revolt or other means.

One means was here, in his money belt. Wellman and Stopes had a process, a new method of propelling spacers. All they needed was backing, and Craig had it—a great fund collected in driplets all over the System from colonials who wanted to cut the economic apron strings of Mother Earth.

"Sometimes," Craig said with a touch of bitterness, "I wish I'd never got into this."

"Don't you want the colonies to be self-sufficient?" Van Hooten demanded.

"Oh, sure. But my personal position is rather uncomfortable."

"Revolt," Van Hooten said, "whether economic or by violence, is never pleasant—to either side." He got to his feet. "Well, we're almost in. You'll let me know who your client is?"

"If Thorny will tell me," Craig said. "It may be confidential."

"It's rather vital that I know, Craig. If your boss has thrown in with—"

"Thorny doesn't 'throw in' with anybody, Van. He's in this business for money. He's hired to find somebody, dead beat, husband, wife, what-not, and he charges a fee. I doubt if he has any political convictions. But he does know how to keep his mouth buttoned. I'll see what I can find out, though. Shall we eat as soon as we land? I want a big, big, really big, fresh steak. I've been dreaming of one for a week."

"Right," Van Hooten said, and left.

When the big ship was cradled, the passengers filed through the disinfectant tunnel and cleared through customs. Craig and Van Hooten presently stood on the great landing platform under the architectural mountain that was Trading Posts, Inc. They headed for one of the exits, and were intercepted by a young man who touched his forehead to them.

"Ambassador Van Hooten?" he asked Jorg. "Mr. Bradley begs that you see him in his office."

"I," Van Hooten said under his breath to Craig, "am about to be bribed."

"I'll go along and wait for you, Van. Make it short, will you? I'm hungry as an asteroid wolf."

They had to wait a few seconds in Bradley's outer office under the apologetic eye of the pretty brunette who informed Bradley of Van Hooten's arrival. Craig found this pleasant, for he regarded pretty girls as among the higher natural phenomena.

Within half a minute, however, a fuming little man burst out of Bradley's office. He was red-faced with anger.

"And now a blasted female!" he flung over his shoulder. He glared at Craig and Van Hooten, then hustled away.

Loren Bradley IV came to the doorway. Craig's eyes lighted with appreciation of the picture of quiet power the man made. He looked at the two colonials with calm welcome, and a slight question in his dark eyes.

"Mr. Van Hooten?" he asked uncertainly.

They rose, and Van Hooten stepped forward. "I touch the head," he said, but did not do so. "This is Craig Marten, my friend."

Bradley touched his forehead. "Mr. Marten, I shan't keep your friend long. Meanwhile, the place is yours."

Craig reseated himself, and watched the little secretary about her various tasks. He wondered if she would like to go to dinner with him sometime. These provincial girls on Earth were often bursting to hear of adventure on far planets.

He was on the verge of proposing such a junket when Van Hooten followed his outthrust chin through Bradley's door. Craig followed him into the corridor.

"Why so grim, Van?"

Van Hooten preceded Craig to a main entrance ramp. "I was offered everything but sole ownership of the Moon. They're scared, Craig. We've picked the right time to strike. Well, this means I must get to work, and can't keep our dinner date. Sorry."

"But you have to eat, Van!"

"I will," Van Hooten said abstractedly, "sometime. Let me know the minute you learn anything. I'll be at the Vector Arms for a few days."

They shook hands, and Craig stood indecisive in the main door for a moment. Should he call Thorny? Or should he ask Bradley's secretary to dinner?

He decided on the latter, and turned abruptly toward an ascending ramp.

What appeared to be a blond-tipped projectile lunged toward him. It was only a fraction of a second before impact, but in that fragment of time he noted that she was in a tearing rush, that she was looking back over her shoulder, and that

her knotted hands, unless parried, would strike him in a most painful spot.

He writhed away, trying to avoid her, and she rammed him. He staggered. She turned her head. She grabbed for him, in an attempt either to steady him or to keep herself upright, but succeeded in pushing him headlong and falling heavily in his face.

They disentangled themselves, ringed by amused spectators. She sat up, great blue eyes brimming with apology, and in one swift glance Craig saw that she was a beauty of first magnitude.

"I'm sorry," he said quickly. "My fault."

He helped her to her feet, and she swayed warmly against his chest for an instant.

"But it was mine," she murmured. "I hope you're not hurt."

She gave him a deep blue glance so filled with concern that he almost patted her head. "I'm not hurt, I'm hungry," he said, grinning. "Suppose we continue this headlong acquaintance over a dinner menu."

"If you'll be my guest," she said. "I must pay for my clumsiness."

They went out the door arm in arm. Craig shook his head in wonder. "My first day on Earth in four years," he said. "And I'm knocked down by a vision who promptly feeds me. I'm doing all right."

"Are you from Outside?" she asked, overtones of excitement in her voice. "Is that how you became so tall and brown?"

Craig smiled to himself. He was doing all right, and plenty, he thought.

II.

Thorne Raglan's outer office was designed to put customers at their ease. Its chairs were triumphs of plastic art, modern in line, but with aspects of the old comfort reputed to have characterized Plastic Center in the old days when there was a Plastic Center. The floor covering likewise was clearly new and expensive, but reminiscent of ancient homeliness. The clean dull walls were sprinkled with peaceful scenes.

Wives who came here seeking an elusive husband were lulled by this quiet dignity, so that when they faced the massive Raglan across his equally massive desk, they remembered the little things about their men—how they brushed their hair, their favorite dishes, their idiosyncracies responsible for such loving concern.

Credit managers who sat in these chairs soon relaxed so that the bill which some vanished debtor owed was not the only burning question. They remembered personal characteristics of their quarry, how he smiled, how she raised an eyebrow.

These characteristics were duly entered on the plasticard files of Hunt Club, Inc., and remained



for reference in a vast room where a hundred young men and women were always busy adding and classifying information. Thorne Raglan often said that he knew more embarrassing facts about more people than any man alive.

For they were here, in a vast room, the little things. If a man kicked a cat, and that fact became a matter of public news or private business, it was entered on a card bearing his name and cross-filed on a card labeled "Cat—kickers."

Here, too, were entered data which often aided the police in tracking down one or another person who shrugged off irksome restrictions of written or unwritten laws. Such use of Hunt Club facilities was inadvertent, for Thorne Raglan's concern was with civil rather than criminal fugitives. Nonetheless, he found co-operation with

authority to be profitable on occasion, and he considered any man an idiot who would overlook opportunity in this economic category.

None of the bustle of his reference room penetrated to his huge private office, and he found this pleasant. Since he no longer took part personally in tracking down some mislaid or elusive mortal, and since his investigators were efficient young men and women, he had much time for meditation. He liked this, for motion was a strain on the arches of his feet.

He was resting those ample extremities on the polished top of his desk when the call came from Loren Bradley. He jerked his feet from the desk with unaccustomed alacrity, for the Trading Posts' account made a sound like the horn of plenty. He activated his desk screen with an

eager fat finger, and it was filled with the forceful features of the man who was sometimes called Master of the Universe.

"Thorny," he said, "I want to stress again the importance of young Marten not knowing that Trading Posts is your client."

"Why, Lorry," Raglan said affably, "I won't tell him. Promised you, didn't I? Wouldn't make much difference, anyway. Craig and I are pals. Besides, you know and everybody knows that my men are loyal. Wouldn't have them around otherwise."

"There's a first time for everything."

"But not with Craig, Lorry. He's my best man. Most trustworthy. But I won't tell him. He can't find out, then. Nobody knows it but you and me, unless somebody in your outfit."

"Two," Bradley said, "aside from myself, know. They won't talk."

"Looks as if everything's all right, then," Raglan said cheerfully.

"Have you talked to Marten?"

"Not yet," Raglan chuckled. "Expected him to call when he got in yesterday, but I guess he met a girl. Isn't supposed to report till this morning, anyway."

"A weakness for women is dangerous."

Raglan chuckled again. His paunch jiggled. "Mostly it's the other way around; they got a weakness for him. They're always beauties, too. He doesn't talk business with 'em. Would you?"

Bradley smiled, waved a careless good-by.

"Don't forget," Raglan said, "that promise of a bonus."

He cut the circuit, replaced his feet on the desk, and smiled. With such a bonus as Bradley would dish out, he could afford to establish another branch on Venus.

Raglan's smile remained, as did his feet, when Craig entered. He waved casually, as to an old friend with whom formality is unnecessary.

"Home the far wanderer," he said.

Craig grinned wryly. "I've spent so much time in the Belt and the colonies, the Outside seems like home. How about you?"

"Home is where my bank is," Raglan said simply. "Why didn't you call me?"

Craig sank into a chair which fitted his long frame with exquisite comfort. "Last night? You're fat."

"Don't be devious, my lad."

"Seems obvious to me, Thorny. You're fat, and a blonde I met—know—isn't. So I didn't call you."

"A true one will never be found," Raglan quoted lugubriously. "'They love a man for his money.' That ancient folk song, my boy, is truth. You spend your money and build up tender memories. Can you eat 'em, pawn 'em?"

"You'd better pay me more, then," Craig said pleasantly. "What's all the sweat, by the way, over couple of space rats? It's costing somebody a lot of dough, apparently."

"Praise be," murmured Raglan. "We have a client," he said in businesslike tones, "who wants them. Therefore, we find them."

"Who's the client?" Craig said casually.

"Sorry," Raglan said shortly. "The name is in my confidential file." He tapped his head with a chubby pink finger.

Craig rose, stretched his long arms. "Better get to work, then. Got an empty office?"

"Take your pick, boy. The office staff is yours, too. Command as you choose."

Craig looked steadily at the pink face of his employer. "This case *must* be important."

"That mounting sound you hear," Raglan chuckled, "is our bank balance. If you get a hot lead, let me know instantly."

Craig stood at the door for a long moment, steady eyes on Raglan. Then he nodded, went out to the file-room entrance.

He stood on the identity plate, held up his badge, and stepped into the verification vestibule. He stuck his hands, palm upward, through the fingerprint wicket, waited until the green stud glowed on the wall, and moved to the second door. He showed his badge again, and pointed to the green stud. The door opened, and he entered the seething room.

"It's all right," he said, grinning at the lemon-faced woman at the desk. "I just dropped in to get warm."

A faint smile hardly disturbed her wrinkles. "I touch the head," she said, not doing it. "Your pleasure, Mr. Marten?"

"I wouldn't call it that," he said. "Will you send the complete Wellman-Stopes files to me in Office B?"

She touched studs on her panel, and Craig went out to the comfortable office with plain, undistracting walls. He sat at the desk with its studded panel, its long-distance and local visiscreens, its array of masks hanging on one end.

He smiled with self-amusement as he recalled an incident which had almost cost him his job on his third day with Hunt Club. A large fee had been involved, which a department store had been willing to pay to find a young woman who had vanished, owing a tremendous bill for clothes and accessories. Craig had been assigned to the case and finally located the shy young lady. He made a call, and also the mistake.

From the rack of masks, he had picked one which he thought was labeled "Professional" in stencils across its forehead. He then represented himself as an attorney who wished to inform the young lady of an inheritance.

Several moments had passed before he under-

stood why the apartment manager, who answered his call, had laughed in derision and cut the circuit. He understood when he removed the mask and saw "Public Zoo" stenciled on its surface.

It had been an understandable mistake. In his early zeal to make a record, he had been careless. Furthermore, he had gone to the master cabinet instead of choosing from those more common masks which hung on his desk. But because of the size of the fee involved, Thorny had almost fired him.

He looked up as a young man brought him a large file case. "I'll let you know if I need help," Craig said.

He set to work on the hundred-odd cards which had accumulated during the fruitless—thus far—search for Ben Wellman and Harold Stopes.

As Craig combed the data, remembered images came back to him. Remembered from the one time he had met the two on Pluto.

Ben Wellman emerged, tall, loose-jointed, with a voice that spoke barely above a whisper even in times of stress.

Harold Stopes, short, chunky, bull-voiced, came out of the cards to his mental vision.

And all the facts. How they had once worked for Trading Posts, Inc., in the Research Department. How they had been fired for something vaguely labeled "incompatibility." How Wellman had gone into the asteroids, a prospector of space.

Here were the names and comments of men who had known him. They told how he never complained, cold or hot, hungry or gorged. Here was a mention of his saving a man from one of the flying wolves of Astarte. Here was a note on his fondness for broiled baby Wuk-Wuk, in the preparation of which the aborigines of Venus excelled. Here was a description of his next meeting with Stopes, and their excitement, the saga of a drunk on Mars during which Wellman at no time raised his voice above a loud whisper. They stayed together, and came to Earth.

Wellman dropped out of the accounts at this point, and Stopes became the active member. He made trips out to the various colonies, where he conferred with this and that colonist. The subject of those conversations was not listed, but Craig knew. Money. Money to develop the process they had, money to break the stranglehold of Trading Posts.

Craig felt a glow of exultation. Nobody knew, except himself. Hunt Club investigators had failed to cajole or surprise the colonials into naming the project of Wellman and Stopes.

And now the narrative of Stopes turned back to Earth. His spirits were high, according to the captain and passengers of the spacer in which he rode. He spent freely in the saloon.

Then he vanished.

All efforts of Hunt Club investigators in all parts of the System had failed to contribute a further piece of data.

Craig went back over the cards, picking out an item here and there for investigation. It seemed clear to him that the men were here, in this city. They had landed here, and no record of any company indicated their leaving.

Of course, he reflected, some other person could have purchased their fares, thus leaving his voice timbre on record. But, Craig thought, the odds were against their getting away, for somewhere along the line, some official would have compared their voice timbres with those noted on their chits, and questions would have been asked.

There were records, in supplementary data, of many such instances, but none which pointed to Wellman or Stopes. A man rode on his wife's chit on occasion, or a woman on her sister's. And all the other variants of the situation. But nowhere was a mention of a whisperer, or one with a rating of 8.7.

Craig began now to enjoy the job. He was through with the routine examination, and engaged in choosing facts which might have been overlooked by other investigators. There was a certain creative quality in his phase of an investigation, he thought. You examine a man's infinitesimal habits, his tiny peculiarities, and you create him, as it were, in a certain place at a certain time.

You can predict, with some degree of accuracy, where a man will entertain himself in a given area, once you know his propensities. If he likes exotic food, you may find him at one time or another in an out-of-the-way exclusive restaurant where the bill far exceeds the quantity of food served. Or, if he is a tippler, he will be found, more than likely, in one of the cellar hangouts which stay open after hours.

Craig made a separate list of personal traits of the two men and sat back to compare them. He checked duplicate traits and made a third list of these.

They liked dogs, and might own one. They had frequent haircuts, usually at the same time. They gambled, and were especially addicted to Plutarchian Six-Two. Craig made a note of this, for not many places could afford to import the fissured spheres cut from Pluto's *kiantherune* mountains.

The chime of his communivox brought Craig back from that craggy range of incredibly hard hills on Pluto.

"Yes?"

"Mr. Marten? You have a masked call on the visivox."

"What kind of mask?"

"Public booth, sir."

"Put it on."

He activated his screen, and the colorless plastic with its stenciled legend came into focus.

"Craig Marten?" asked a pettish male voice.

"Who are you?" Craig asked.

"Never mind!" the voice snapped. "You are tracing the whereabouts of Wellman and Stopes. Unless you drop the investigation instantly and resign, you will be killed. If you do this, you will be rewarded."

"Who says?" Craig asked calmly.

The voice behind the mask became calm, too. "This is no idle or melodramatic threat. It is made in deadly earnest."

"By whom?"

"I will not bandy words until you can have this call traced. Good day!"

The screen went abruptly blank. Craig touched the stud on his communivox.

"Yes, sir?" asked the operator.

"What was the rating on that voice?"

After a small silence, "Three-point-oh-eight, sir."

Craig made a note. "File your record of the conversation and send a copy to me."

"Yes, sir. Right away."

Craig ran through the file once more, noting voice ratings. He found a few of 3.08, but none that could possibly belong to the man who had called, for they were all dead but one, and he was a colonial known to Craig personally.

He leaned back and cursed for a moment, cursed the law which allowed anonymous calls. Though Hunt Club's masks were vital to its efficient operation, he wished for a moment that the civil liberties group had lost their fight ten years before.

Then he noted the time, and wondered if Jennifer Jones would like to make a tour of the night spots. He thought it the better part of strategy to appear as a young blade taking his girl for a whirl. Besides, he liked the smugness which appreciative eyes on her aroused in him.

He called her.

She would like.

III.

Since all spacers cleared through Trading Posts—for a nominal fee—and all passengers, crew members, et cetera, eventually made an exit through the main doors of Trading Posts, it was inevitable that an establishment such as the Outsiders' Club should come into existence nearby.

It was famous throughout the System, and it was a common saying that if you waited long enough in the big gaming room you would eventually see every person you had ever known. "See you in the Outsiders'" was an accepted phrase for "good-by."

They all came through its brilliant plastic doors—miners rich from a strike in the Belt, colonials laden with the spoils of commerce, salesmen seek-

ing a spree before returning to their wives or offices, Space Patrol hardies wishing to lay in a store of memories to brighten the next sweep around the System, tourists bulging with vacation money, down-and-outers who could see a free show.

The show was there, under the smooth managerial hands of Billy Bedamm. He admitted this to be a pseudonym which he had dug out of an ancient piece of writing. His legal name was on file with the proper authorities, forgotten, no doubt, by them.

His origin was obscure. He showed traces of a Martian flush, and he was small, which added to the effect. He had beady black eyes, a common Venusian trait. He had swift white hands, and walked silently on tiny feet.

He moved through clients who crowded his tables of chance, nodding, smiling, watching, remembering. He carried a classified index in his flat, sleek head, and a Payne coagulator on his hip. He maintained no staff of bouncers; if trouble came, Billy Bedamm settled it in his deadly, soft-spoken way.

He didn't like violence, for he realized that every dead, or even insulted, customer meant that his coffers filled at a slower rate. He was pacific by inclination, but not by nature, for if trouble was unavoidable he was ready for it.

There was the evening, a few weeks ago, when trouble flared at the Six-Two table, for example.

The stakes were high, and the customers who lined each side of the long table were tense with excitement. They laid their bets on numbered plastic squares before them, and watched the chute at one end of the table. They caught their breath sharply as the gleaming sphere, with its radioactive fissures, rolled almost silently from the chute and along the trough which divided the table along its major axis.

Overhead, in the exact center, the golden arrow spun against its circular, numbered sheet of dark plastic. As the Plutarchian ball passed the center area, radiations shooting from one angle or another, bombarded the sensitive mechanism which spun the arrow and brought it to an abrupt halt. The number to which it pointed, and the color of that number, determined the winners who had covered duplicating numbers and colors on the squares before them.

Once in so many times the ball passed in such a manner that no radiation touched the arrow and it continued to spin. In this event, the house paid all betters at the rate of six to two, and to those who had placed their bets on the no-play square at the rate of sixty to two.

The large young man who had been drinking heavily was guessing wrong. He was playing a system, as most gamblers played the game, but he

was out of phase. He was flushed, his thick red hair was tousled, and his chips were flowing steadily into the dealer's slot.

He placed his last bet, all of his remaining chips on a square. He turned bloodshot eyes to the chute.

"Bets down," called the dealer, and pressed the activating button.

The arrow spun, the ball sped through. The arrow spun. No play.

"I win," the young man cried. "I'm on no-play."

The dealer eyed him stonily, pointing to the bet. The large young man looked down and flushed as red as his hair. He turned to the man on his right, with slitted eyes and clawed hands.

"You shifted my bet, scum!"

The accused, a long, lanky, space-tanned man of middle age, replied in tones barely above a whisper.

"You're mistaken. I didn't touch your bet."

"You're a liar, and you're going to pay—with a beating."

The dealer, and the men and women around the table, commanded the young man to be quiet, but he leaped at his neighbor. This one, with surprising agility, slid away from the rush and allowed the redhead to plunge past to where he was brought up short by the nozzle of Billy Bedamm's coagulator.

"Give him his money, exactly what he has coming and no more," Billy commanded the dealer. To the young man, "Take it and get out. You're annoying my guests."

"Robbery, too, huh?" the redhead snapped. "This is one time you won't get away with it."

He lunged at Billy Bedamm, and Billy pressed the activator. The redhead twisted, stumbled, and plunged directly into the deadly stream. He fell to the floor, dead.

The ensuing investigation by summoned officers of the law absolved Billy of blame and established the fact that the redhead was a file clerk at Hunt Club, Inc. The space-tanned stranger with the soft voice had vanished, leaving his winnings on the table. Thorne Raglan was notified on the following day, the redhead's relatives received a large anonymous check, and the incident was closed.

When they left the third bar, after one glass of Mercurian wine each, Craig became certain that he was being followed. From the time he had left the office he had been almost subconsciously aware of a wraith somewhere behind him. While waiting in Jennifer's apartment for her to put the finishing touches to her costume, he glanced through a window and was almost—but not quite—able to distinguish an alien shadow in the gloom below.

He was dizzied by the contrast between her

black costume and her blond hair when they left her place, and too pleasantly conscious of admiring glances in the first place they stopped to notice anything out of the way. If a flying wolf had swooped through, he probably would have noted that its eyes flicked at Jennifer in carnivorous approbation.

He conducted his investigation, yes. He talked casually to bartenders and waiters, he asked artless questions, but he had one eye always on Jennifer, and his mind on what a nice-looking couple they were.

But when they emerged from Paul's Parallax, he caught from the corner of his eye a bare hint of movement across the street. When he focused on the spot, he could see nothing.

As they walked arm in arm toward the bright façade of the Outsiders' Club, he decided on a course of action.

"I'm being followed," he said to Jennifer. "I want to get a look at whoever it is, so I'm going to park you at a table in Billy Bedamm's and circulate."

She looked at him sharply, and began to turn her head.

"Don't!" he snapped. "Don't look behind; we'll scare him away."

"I was just wondering," she said thoughtfully, "if it's you or me who is being followed."

"Why should you be followed?" he scoffed. "If you were alone, sure. People would be crazy if they didn't flock after you. But you're escorted this evening."

After a short silence, she said lightly, "Maybe the shadow thinks you'll fall over dead."

"Then he's cutting out a career for himself."

The feeling Craig had for Jennifer's reaction was not suspicion. Not yet. All the same he wondered why she should be afraid that she was followed. And if her fear was correct, who was following?

Jennifer, on her part, devoted some thought to this same question. It was not likely that Bradley was having her shadowed. He *knew* she would play fair. She couldn't afford not to. He wouldn't put anyone else after Craig, either, not after her first report to him on progress. If Craig was being followed, then, who was doing it? There must, she decided, be a third group interested in the whereabouts of Wellman and Stopes. The Hunt Club, Trading Posts, and X. She, too, would like a look at the man behind.

Inside the Outsiders' Club, the evening was at its height. Bar patrons had not yet drunk too much, gamblers had not yet lost everything. It was at that indeterminate point where no man could tell whether it was to go down in history as a brawl or as run-of-the-mill.

Every fifteen minutes, a voice knifed through

the hubbub. It issued from monitors which were connected to the traffic control office of Trading Posts, Inc. The Outsiders' Club and similar spots in the neighborhood received the message:

"Passengers for Space Flight 9! Report to the medical officer in thirty minutes. Space Flight 9. Medical officer. Thirty minutes."

These announcements had visible effect on isolated groups, couples, and individuals. A pretty girl and a young man in Trading Posts' livery touched glasses in a dark corner gravely, bravely, sadly; a group at the bar pounded one of their number and told the bartender what a great guy their friend was; a little man with a traveling case glanced at his watch and turned anxious eyes on the main door.

Gaming-table crowds paid no heed to these announcements. They watched the play, made their bets, rejoiced or cursed at the result.

Craig bought Jennifer a stack of chips at the Stardust table, patted her blond head, and went in search of Billy Bedamm.

Craig showed his identity badge, said, "I'd like a talk."

Billy swept the room with a beady glance, said, "Come on," and led the way into his office.

"If you're here about the redhead," Billy said,



when they were seated and had cigars going, "you're wasting time. It was self-defense."

Craig did not change expression. He knew nothing about a redhead, but there was no point in putting his ignorance on display.

"What's one more or less," he said, shrugging. "I'm here on a different matter. You know who I am?"

"I know. I've heard Thorny rave about you often enough."

"Well, I'm looking for a couple of mugs. I hear that you have a memory."

Billy Bedamm's sharp face softened. It had a look of preening.

"Once I get my optics on somebody," he said smugly, "I don't forget 'em."

"One of these boys I'm looking for," Craig said, "hardly ever speaks above a whisper. He's tall, and lanky, and has a deep space tan. Remember anybody like that?"

Billy slitted black eyes at Craig. He knocked the ash off his cigar. He was quiet for a long time.

Then, "If you're trying to stick him for the redhead's . . . uh . . . demise, you're off the beam. I shot the kid, had to. I told Thorny, and sent the kid's family a check."

"Hell with the redhead!" Craig said sharply. "I don't know anything about him. But there was a soft-spoken guy here? He's the one I'm after."

Billy Bedamm considered, then answered cautiously, "Yes."

"Where does he live?"

Billy shrugged. "Don't know. Hasn't been back

since. He was in here a few times with a stocky guy who damn near bust my eardrums when he talked. Then alone, and then—nothing. Left his chips behind."

Craig got the story, cursed the fact that the redhead was a file clerk instead of an investigator, and went out to find Jennifer.

The crisis had passed, as far as the evening was concerned. Customers were beginning to cash in their chips and drift away from the tables. It was time to go home. Jennifer, however, had hit a winning streak, and Craig watched her hit play after play for an hour.

"Better cash in," he said then. "I have to go to work tomorrow."

She threw a wide blue glance up at him. "They'll be angry if I go away winner."

"That's the chance they take."

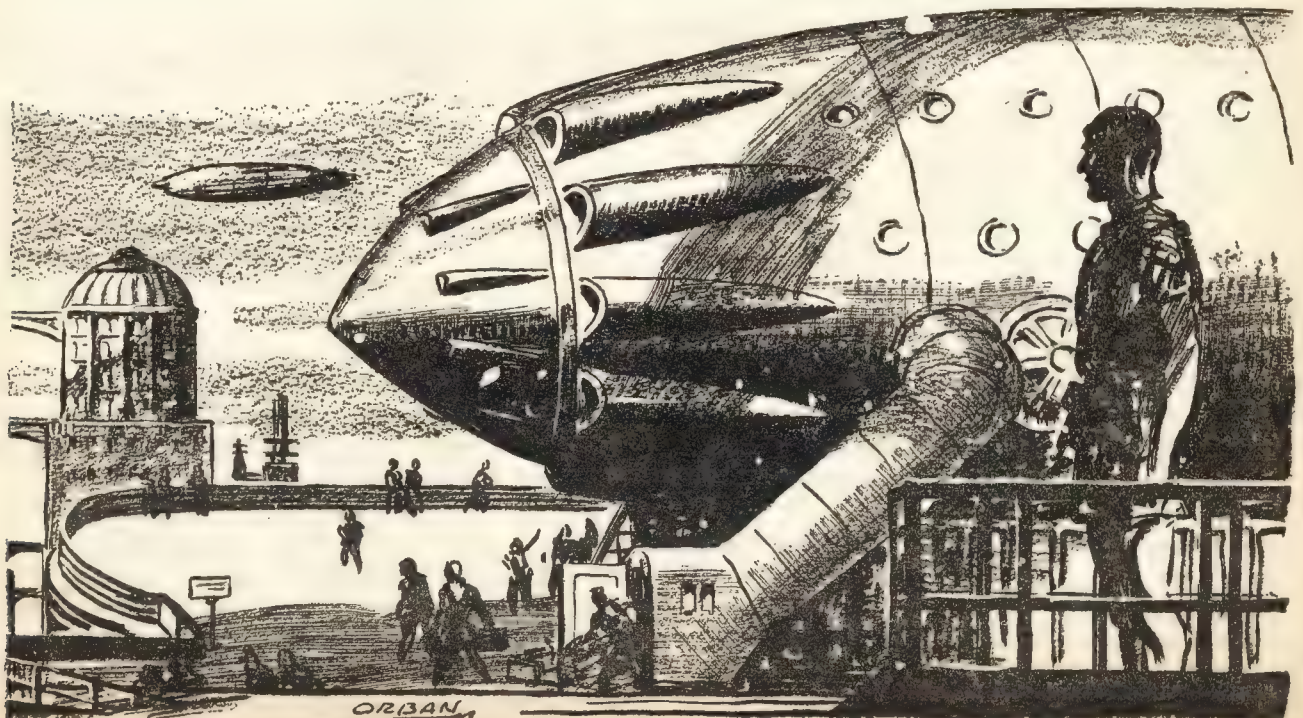
She raked in her chips, cashed them, turned the negotiable proceeds over to Craig, and they went up to the landing roof for a taxi. They selected a large, comfortable machine, and told the pilot to "fly around awhile."

"Why," Craig asked presently, "were you afraid of being followed? I don't mean afraid exactly, but why did you suspect that it might be you instead of me?"

She looked down on the city which gleamed beneath. She was silent for a long time, during which silence Craig verified his suspicion that another taxi was trailing them.

"I can't tell you," she said finally. "Do you mind?"

"Very much," he said shortly. "I'm beginning



to develop a fondness for you, and before it goes too far, I'd like to know something about you."

"Don't you approve of what you know and see?" she asked.

"Very much," he said honestly, "but I want to know more."

"There isn't much to tell," she said. "I was born on Mars, and I came here several years ago. I've lived an ordinary life. My mother died long ago, my father is still alive."

"Where is he?"

"He's working. He's a bookkeeper for a big company."

Craig leaned forward, gave the pilot Jennifer's address.

"What's the matter, Craig?" she asked in puzzled tones.

"Nothing!" he snapped, and relaxed in his own corner.

From the corner of his eye, he saw the green running lights of the trailing taxi.

Whoever was in it, he thought, belonged to the group which had warned him off the Wellman-Stopes search. This meant that the persons who warned him were not Hunt Club's clients. Ergo, they must know where Wellman and Stopes were. He needed a talk with the person or persons who were in the taxi behind.

And this blond beauty, he thought, this Jennifer, sulking in her own corner. Why should she be followed? He resolved to check Hunt Club files tomorrow for her. She apparently didn't want to talk about herself, and he wondered why.

The taxi swooped down at an apartment roof. Craig hurried Jennifer out, paid the pilot, and pulled her quickly toward the entrance door. When they reached it, he yanked her to one side into deep shadow, and they waited.

"What—" she began, but he clamped a hand over her mouth.

"Quiet!" he hissed, and watched the sky.

The second taxi came silently in to a halt, and one figure disembarked. This came cautiously toward the door, with what appeared to be a coagulator in one hand. Several yards away, it halted and pointed the object into the shadows where crouched Craig and Jennifer.

"All right!" a male voice snapped. "I was watching the door. It didn't open. So you're in there. So come on out!"

Craig held a steady hand on Jennifer, indicating that she was to remain where she was, and said, "You've caught me."

He advanced into the fan of light from the entrance door.

"Who are you?" he asked.

"Never mind!" snapped the man. "You're Craig Marten?"

"That's right."

Craig crossed the area overlooked by the door, so that the man turned in a half circle to keep the coagulator trained.

"What do you want?" Craig asked.

"You were warned," the man said. "Now you die, or—"

His words choked off in a harsh cry. There was a *thump!* as a form streaked from the shadows. Then Jennifer stood over a fallen form, coagulator in hand.

"I hope I didn't injure him permanently with that kick," she said, and gave Craig the weapon. "Let's drag him inside."

They did so. He was a small man, in his early thirties, Craig judged. He bore no identification. They searched him, and found nothing. Craig noted all characteristic detail, or so he thought, and they waited for the man to recover from the fall, in which he had struck his head on the hard plastic roof.

Presently he opened dark-brown eyes, gleaming with chagrin and anger. Craig pointed the side-arm.

"You've got a name, and your boss has a name. What are they?"

"My name is Brown," the man answered sullenly, "and so is my boss'."

"That's a lie," Craig said, "but let it pass. Why are you after me?"

"My boss doesn't like the way you part your hair."

"Listen!" Craig said grimly, "I'd be justified in killing you. I'm not going to, because I want you to deliver a message. You know where Wellman and Stopes are, don't you?"

"Suppose I do?" The man sat up, rubbed his head.

"Then tell 'em Van Hooten wants them to see me. Can you remember that?"

"Am I an imbecile?" the man countered.

"You should know," Craig said. "Take off."

The man got to his feet and went through the door to the taxi signal with a certain arrogance. Craig turned to Jennifer.

"Whoever you are, I think you're wonderful."

She raised blue eyes alight with honest pleasure. "You're not so bad yourself. Wonder who he is, the man with the funny ears?"

"Funny ears?" Craig was puzzled.

"Yes. They have no lobes."

"Why—" Craig began, then broke off. She had been on one side of the bogus Brown, he had been on the other. He focused memory on the ear he had seen. It had been small, flat, and perfectly normal. "How do you know?" he asked.

"I noticed particularly," she said, "because mine are that way. Look." She showed him. "No lobes. That's why I wear my hair over them."

"I see."

Craig took her to her door, said good night,

and went out to the taxi signal pondering the man with one ear which had no lobe. He should be easy to identify, through Hunt Club's files or other means.

IV.

Harold Stopes stood wide-legged in the center of the room, a drink in one hand, hard lights in the eyes that fixed three who lounged in various attitudes on chairs. Though the drink was a sybaritic touch, Stopes was a figure of danger. He looked like one of the stocky, short-legged Uranian bears about to charge.

"I don't like it!" he said in his deep bull-like voice. "Marten hasn't hurt us. He's a good guy."

Gus Haaker, who wore a mechanic's star on the belt of his shorts, spoke soothingly. "Look at the whole picture, Hal. All we got to do is wait. We know the money was collected, and somebody will get it to us. Well, we can't let Craig Marten find us. He'll tell Raglan, Raglan will tell Bradley, and Bradley will have us burned down."

Ben Wellman, from a corner behind Stopes, raised his head from a diagram he was making. "I wish they'd hurry," he complained in a voice just above a whisper. "I'm getting tired of this canned hay we're eating."

"You're getting your vitamins, Ben," one of the other men said. "You're healthy."

"It's the *feel* of the stuff," Ben said. "I'd like to tear some fresh meat apart."

"You know we can't take the chance, though, Ben. If anybody but Craig Marten was looking for you—but he's everywhere."

"Maybe we could make a deal with Marten," Stopes boomed. "He's a colonial."

"He's a Hunt Club man, too," Gus pointed out. "You know what that means. Listen, what I want to know is, are we a democratic committee or not? The majority voted to burn Marten down. Sure we don't like it, but is his life more important than colonial freedom?"

"All right, all right," Stopes acceded. "But I still don't like it. Suppose, though, that Foxy gets caught at it. He'll be taken in custody."

The three men laughed in derision, and Ben Wellman went back to his diagram.

"Caught!" Gus snorted. "Foxy could sleep in your own bed with you and you'd never know it. Maybe he won't get Marten tonight, but he will tomorrow, or tomorrow."

Stopes tossed down his drink, paced back and forth on his stocky legs, brows furrowed. "Maybe Van Hooten *didn't* make a deal with Bradley," he suggested.

"He was there, wasn't he?" Gus asked with crushing logic.

"But maybe the Old Man was mistaken."

"The Old Man don't make mistakes," Gus said. "Not when he's waited this long to do Bradley in."

"I sure am hungry," Ben Wellman broke in with a whisper.

"You work the bugs out of that top circuit," Stopes commanded. "That'll do us more good than food."

"But I have," Ben whispered. "It's all right now."

This brought the three men to their feet, and they, with Stopes, crowded around Wellman's board. They took one brief look, and vented a chorus of cheers.

"He's done it!"

"The old genius!"

"Why didn't I think of that?"

They pounded Wellman on the back, and he grinned with pleased embarrassment, showing a row of large teeth.

"I'm still hungry," he whispered, when they had quieted.

"You can have anything you want," Stopes promised, "even if it's out of season—when we get the money."

"This calls for a drink," Gus said, and poured glasses.

"Freedom," they toasted, and drank.

"Now," Stopes said, "we've got to get rid of Marten. I give in. As long as there was a chance our converter wouldn't work, I didn't like it. But now it's necessary."

"Leave it to Foxy," Gus said.

The door chime cut off their clamor. One of the men touched a wall stud, and they looked at the identity screen. It filled with familiar features—of a man whose ears didn't match. The door slid up, he entered, the door sealed again.

Nobody said anything. They waited for Foxy to speak.

Foxy stood with his eyes downcast. He said nothing.

"Where's your gun?" Ben Wellman whispered.

Foxy's small head jerked up. "All right!" he snapped. "Let's have it. Get it over with."

"He . . . he took it away from you?" Gus demanded.

"How did I know," Foxy said bitterly, "that damned blonde was still with him? She kneed me."

There was a short, tense silence.

"Where is he?" Stopes boomed.

"Aw, shut up!" Foxy growled. "How would I know?"

They looked at him. He quailed under the hard eyes.

"Now listen, fellows," he pleaded. "Not that. I been through enough!"

They looked at him.

"Listen!" Foxy begged. "He sent you a message. Said Van Hooten wants you to see him."

They cackled. "I'll bet he does!" Gus grated.

"You won't gain anything," Ben Wellman whispered, "by burning Foxy. Maybe he couldn't help it. Others have tried to scare Craig, or get him, and he's still around."

A small flame of hope flickered in Foxy's eyes, and he looked as if he would grovel at Ben's long feet.

They considered Ben's remark. The quivering silence almost reduced Foxy to jelly. Finally, they all looked at Harold Stopes. The final decision was to be his.

"All right," he said. "I guess Ben's right. But we can't let morning find Marten alive. I think we'd all better go. You know where he's staying, Foxy?"

"Sure, Hal, sure. At the Orbit. I'll show you."

"Get your guns, then. Let's go." As Ben Wellman failed to join the hurried, silent movement, "Coming, Ben?" Stopes asked.

"No," Ben whispered. "Craig bought me a meal once. That seems very important, hungry as I am."

"You'll wait here?"

"Sure."

"Eat a bowl of Granulax."

Ben Wellman made a mouth of distaste, and watched them troop away. He looked at the drawing with bored eyes, then sat quite still for a few moments, thinking.

He thought of Craig Marten, and the young man's reputation. In the colonies—on Venus, Mars, Pluto—Craig was known as a man who could find anybody. It was said that he operated on the strength of hunches, and that his hunches paid off. Otherwise, it was said, he could not finish his jobs in such phenomenal time.

But it was also said that Craig Marten was loyal to the colonies, that he wanted to see them free from Trading Posts' economic yoke.

Ben Wellman began to get an idea. Perhaps Craig's main office had brought him here not only because he was Hunt Club's best operative, but also because he knew his quarry by sight. And perhaps Craig was handling it as any other job. But if he knew that Trading Posts was behind the search, in an attempt to maintain its hold on colonial economic life—perhaps Craig Marten would throw in with this group.

Ben did not dare tell Craig without consent of the others, but he could save the young man's life meanwhile.

To think was to act. He donned the "private" mask, called the Orbit Hotel on the visivox, and soon Craig's long, tanned face filled his screen.

"Get out of your room," Wellman whispered. "You'll be killed. They're coming for you."

The face on the screen spoke desperately. "Listen, Wellman, I want to see you. I have something for you."

"Good-by," Wellman said, and cut the circuit.

Ben Wellman felt immensely better. He had done his part, whether Craig took the warning seriously or not. He hung the mask back on its hook, and hunger fell on him like a cloud. This long stretch without fresh food had palled on him some days ago. He considered the question of going out to a restaurant.

Craig was busy, either in fleeing or in getting killed. Wellman decided to go out. To be discreet, yes, to patronize a small place which would not be crowded at this late hour.

On the front step of his apartment house, he found a thin plastic sheet announcing that broiled baby Wuk-Wuk was a specialty—today only—of the Planetoid Restaurant, located nearby.

Ben Wellman drooled. Mere thought of the delicacy caused a stream of gastric juices to flow. He set off at once toward the restaurant, noticing in passing that announcements had been left at all doors along the street.

He was the Planetoid's only customer, which suited him perfectly. He went to a dim-lighted table, gave his order to the waiter.

He did not see the waiter confer with the manager, did not see the manager enter the public visibooth, did not hear, "He's here. Sooner than you thought."

When Craig Marten reached his hotel room, he sat. He tried to fit together into a connected pattern the apparently disconnected pieces of information he had picked up. Who was after him? Who wanted to see him dead?

As far as he could see, the only persons interested in Wellman and Stopes remaining hidden would be Wellman and Stopes themselves. If this were true, how did they know he was looking for them?

The answer to this was clear. Somebody in the office of Hunt Club's client was a double-crosser, already in touch with Wellman and Stopes.

Who, then, was the client? His first guess would be Trading Posts, Inc., for that company had more to gain by keeping the Wellman-Stopes process, whatever it was, off the market. But the process was reputed to be a well-guarded secret, as were the collections which had landed finally in his own money belt. Yet, he considered, let more than one person in on a secret and it is less likely to remain a secret. And hundreds knew at least something about the fund and its purpose.

Assume, then, that Trading Posts was the client. Somebody high in its councils, or somebody who had the confidence, or Loren Bradley IV was the double-crosser. Who? When he thought of the thousands of employees of the mammoth concern, he grew slightly dizzy at the prospect of narrowing the list down to one.

He wondered, too, about Jennifer Jones. Was she a piece of this puzzle? He tried, but could not fit her anywhere, with the meager information he possessed. He'd better search Hunt Club's files.

The man with one lobeless ear was the subject of immediate investigation. It was possible that data on him might be in the files.

Craig got to his feet, started for the door, when his visivox chimed. He identified his caller, in spite of the mask, as Ben Wellman, and stood exulting silently after the conversation. He had been correct, then.

There was a third group, aside from Hunt Club and—possibly—Trading Posts, concerned with the whereabouts of Wellman and Stopes.

So they were going to kill him!

He considered waiting for them, informing them of the fund, and watching developments. He discarded this. Suppose they shot first?

No, he would run them further to earth, and inform them when they were not in a position to burn him down. He left hurriedly.

When he was in the file room, he told the night shift supervisor to send him the file on "ears" which had to do with persons in this area. When the file came to his office, he found a man, Joe Fox, who answered the description. He had once worked for Trading Posts, an experience he shared with Wellman and Stopes.

He checked the voice rating: 4.8. Craig recollected that his assailant of the evening had had quite an ordinary voice, rating near the 5.0 normal.

He could not decide definitely on the man, of course, but it was a lead. Now, for Jennifer Jones.

His visivox chimed, and Tony Whalen, proprietor of the Planetoid informed him that Craig's ruse had paid off in record time. Craig sent back the file, hurried up to the landing roof and took one of the firm's private taxis to the restaurant.

He took a chair opposite Wellman, said pleasantly, "You owe me a meal, I believe."

Wellman didn't jump. His eyes didn't widen. He sat motionless for a few seconds.

Then, "How did you do it?" he whispered.

"Trade secret," Craig said, thinking of the mental processes of elimination which had finally brought him to this neighborhood, and the announcements he had talked Tony into distributing at quite some expense to Craig himself.

Tony, lithe and pleasant, approached the table. "Good evening, sir," he said formally to Craig. "I touch the head. Your order?"

"Whatever my friend is having."

"Wuk-Wuk," Tony said. "Yes, sir." He went away.

Craig wondered if Wellman would identify the dish as veal with a special sauce. Not that it mattered.

"I have good news for you, Ben. I've got money. A lot of it. I'm to turn it over to you—provided you convince me your gadget will work."

Wellman said, "I don't believe you. Loren Bradley hired you to turn us over to him."

"So Trading Posts is the client? Who's your contact there, Ben?"

"I won't tell you."

"If I show you the list of donors, will you believe me?"

"No. Bradley knows some of them. You've got his list."

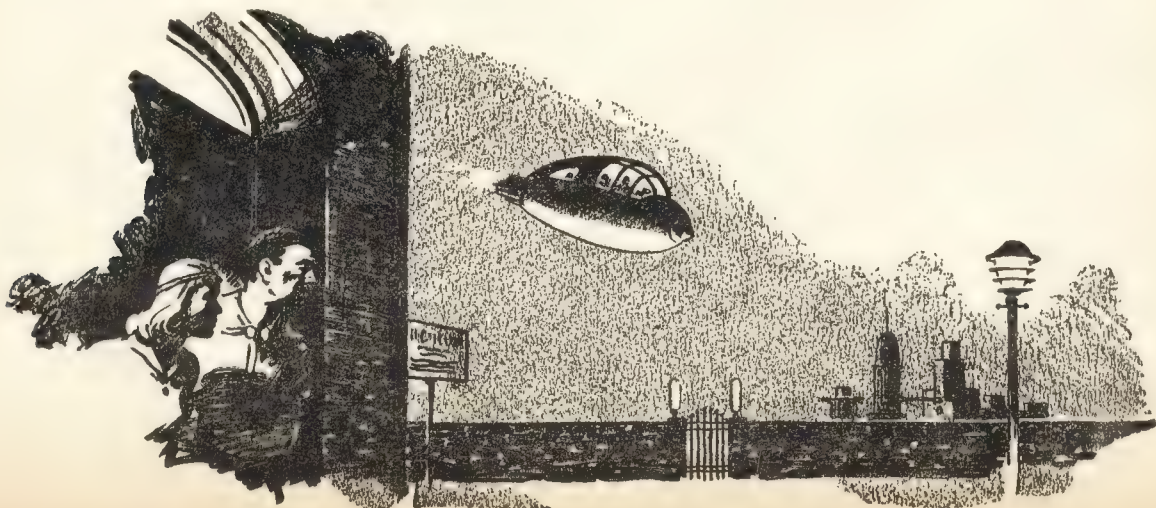
"Well," Craig said, "I'm to turn this money over to you conditionally. Are you ready to fulfill your part?"

"As soon as we eat," Wellman whispered. "I'm hungry. You'll have to come home with me."

Craig was silent. Presently, he said, "Somebody wants to burn me down. Your crowd. So if I go home with you, what happens?"

"I'll guarantee your safety," Wellman whispered, "as long as you don't try to report that you've found me."

"It's a deal, Ben. Since I spent my own money tonight, I'm in the clear, morally."



They ate, and took Craig's private taxi to the apartment house. Wellman unlocked the door. When they were in, he put it on the inner latch and threw the identity-screen switch.

"If we're interrupted," he whispered, "you step inside that closet until I fix it with the boys." He touched a wall stud, and a panel slid up revealing the dark interior of a recess piled with paraphernalia. "That's our model," Wellman said.

Craig eyed the gleaming ball suspended in a framework of metal bands. "What does it do?"

"I'll tell you. How much of an engineer are you?"

"Give me a point of reference," Craig said dryly, "and I know which way is up."

"Then I'd better give you some background," Wellman whispered. "Current spaceships—that is, all of those controlled by Trading Posts—"

"Are there others?"

"Not yet. They've got a monopoly. Well, they use power released by Baltext-controlled disintegration of atoms. Now these are special atoms under fairly ordinary conditions. My . . . our . . . process is the reverse. We propose to use ordinary atoms—anything at all—under very special conditions, which we create inside that little sphere."

"Create?"

"Create. Here's the simplest way to put it. Atoms that we know—this floor, these walls, chairs—are stable under the laws of space as we know them. The inverse square law, electrostatic, electromagnetic, gravitational, and the rest. The atoms remain in *status quo*. But they would not, they'd be explosive, if they were in a space *where those laws do not apply*."

"Where is such a space?"

"There, when we choose." Wellman pointed to the ball. "The inside of that sphere is plated with neutronium. If we place a hunk of matter in it and change space conditions so that they differ slightly from what that matter is stable in, the atoms of the matter will adjust themselves to the new conditions and give off energy."

"I'm beginning to get lost," Craig said.

"All right," Wellman whispered. "Suppose that our new space—I'll get to how we create it—is such that the inverse square law—just for example—is not operative as such. Suppose that it becomes the 2.34th power law. All the other laws must change accordingly to bring about equilibrium, and this means that the atoms of our hunk of matter change."

"So far I follow."

"When the atoms readjust themselves, they give off energy. Right?"

"Sounds logical."

"At that point, when the change is effected, we have an equilibrium, and no more flow of energy. Right?"

"Good enough."

"So we collapse that special spatial condition, and the inverse square law, as we know it, applies again—and brings about another atomic readjustment in our hunk of matter. Right?"

"I'm beginning to see light," Craig said. "So you continue the process. Over and over, you create and collapse your special space, and over and over your atomic readjustment gives you a flow of energy."

"That's it," Wellman said in a pleased whisper. "We do this with a converter-oscillator, which has been giving us some trouble in trials. I worked the bugs out of it tonight, so all we need now is money to buy parts."

"Which I have," Craig said. "Are you ready to deal?"

"Personally, I am," Wellman said. "But I have to talk it over with the others."

Craig took off his money belt, tossed it to Wellman. "That was my job. It's finished. I'd better get out of here, and let you confer with your group."

"No!" Wellman whispered sharply. "The whole group has to decide."

"You mean," Craig said softly, "I'm a prisoner?"

Wellman looked embarrassed. "I told you I believe you, Craig. But I'm a credulous cuss. Maybe you're pulling a fast one. And I told you I'd guarantee your safety."

A soft chime cut into their conversation, and Craig reluctantly obeyed Ben Wellman's gestures. He entered the closet, and the sliding door locked him in thick darkness.

V.

Mr. Cuppy added the final name to his list, leaned back with a smile of tired triumph. The task was done. The first block was now weakened in the economic foundation of Loren Bradley's empire. Revenge had been a long time coming, Mr. Cuppy reflected.

All the sweeter, then.

He returned the sheaf of correspondence to Loren Bradley's confidential file and threw the key—a duplicate of Bradley's, procured with difficulty and risk—into a disintegrator chute. He examined the list again, with paternal fondness.

Here were the men with money. They had wanted to buy stock, or they had broken with Trading Posts. They were interested either in the shipping business or in ruining Bradley. Either object was laudable, in Mr. Cuppy's eyes, for they would finance his "palace revolution," as the historians called it.

Mr. Cuppy loosed a little sigh for his long-vanished youth, energy and drive. Thirty years ago he could have made more of this opportunity. The opportunity hadn't existed, of course, for

Ben Wellman and Harold Stopes had not come on the scene.

Ah, well, Mr. Cuppy thought. Better now than never. There was a fight in him, still. This fight should take him to the top of the heap. He had contracts drawn, awaiting the signatures of Wellman and Stopes, which named himself as general manager of Space trades, Ltd.

When they were signed, and not before, he would reveal his complete indifference toward colonial independence, his intense desire to rule the spaceways as Trading Posts had ruled. His burning determination that Loren Bradley IV should come to his knees and right the wrong of his grandfather, a wrong which had made Mr. Cuppy a bookkeeper instead of a tycoon.

In the meantime, he should maintain the pretense of devotion to freedom—until. Until the fools had their model—which Mr. Cuppy had financed—working perfectly. With a demonstrable model, Mr. Cuppy could collect millions. Billions.

He folded his list, locked it in a secret recess of his desk, and glanced at the time. He was startled, and at the same time eased in his mind. This tiredness he had attributed to old age, but the hour told him it was the result of a long, harrying day. He would drop by the apartment to check on progress on the model, then home to bed.

He noticed a light in the accounting room and investigated. The fleet of desks at which bookkeepers toiled each day, was empty—save one. Eric Boardman was working late again, and it is to Mr. Cuppy's credit that he felt a mixture of shame and sympathy for the stooped old man. He went silently to Boardman's desk and dropped a hand on a thin shoulder.

"Go home, Eric," he said kindly. "It's late. You look tired."

Boardman looked up, smiled wearily. His wide, thin mouth seemed too tired to lift at both corners.

"Hello, Mr. Cuppy. I was just about to quit. Some special work for Mr. Bradley."

"You'll do yourself no good," Mr. Cuppy said testily, "by killing yourself off."

"But I must work," Boardman sighed, "and clear my name." He hesitated, then plunged into a tumbling, rushing speech. "Mr. Cuppy, you said you'd investigate further. Have you found anything, Mr. Cuppy, sir? I didn't take that money. There must be a bookkeeping error. Did you find it, so I can live again, sir? Did you?"

Mr. Cuppy spoke softly. "I'm sorry, Eric. Our accounts have been completely audited, and the evidence is still there. But I promise you that if a wrong has been done it shall be righted."

Mr. Cuppy went up to the landing roof, thinking that superlatively honest Eric Boardman

could be fitted into Spaceways, Ltd. It was no more than just, since Mr. Cuppy himself had taken the money to finance the Wellman-Stopes model. Not that Boardman should ever know, of course, but he could profit by his unwitting contribution to the disintegration of Trading Posts and the humbling of the Bradley clan.

Mr. Cuppy stood on the identity plate of the apartment, stepped in when the door slid up—stepped into a tense, fist-clenched silence. These men were hard-eyed, and Ben Wellman had one brown hand on the butt of his coagulator—which Mr. Cuppy had never seen him wear before.

They didn't touch their heads, either. Mr. Cuppy was mentally adrift for a second, trying to fathom the situation.

Then, "Somebody say something!" he barked.

"Sit down," Ben Wellman whispered, "over there where I can keep an eye on you. We're trying to straighten out a difficulty. Maybe you can help."

Help? This was a new role for Mr. Cuppy, who had commanded, to play. He squared his thin shoulders, thrust out his aged chin, then hesitated. There was no mistaking the grimness of Wellman, for all that he spoke in whispers.

This was a new Ben Wellman and Mr. Cuppy eyed him with a puzzled stare.

"Well?" Ben questioned impatiently.

Mr. Cuppy sat. The better part of valor, he thought, for the time being.

"I'm saying it once more," Wellman said to the group. "I guaranteed his safety, and I'll keep my word. Or else we'll have some killing. Make it easy on yourselves."

"Now look, Ben," Harold Stopes said in his deep voice. "We just can't let him go free. I'm not going to insist on burning him, but we've got to keep him. You can see that. This thing is too big to take chances."

"He'll go if he wants to," Ben said in a stubborn whisper. "He came here of his own free will, and he may—*may*, I say; I'm not sure—be telling the truth."

An icy hand clutched at Mr. Cuppy's heart. Had they found him out?

"Are you talking about me?" he blustered.

They looked at him, eyes dull with the effort of shifting to the new subject. Then their eyes sharpened, hardened again.

"Why you?" Harold Stopes said with disgust. "We're talking about Craig Marten."

Mr. Cuppy made his sigh inaudible. "Where is he?"

"In this closet here," Wellman whispered.

"All of you are talking gibberish," Mr. Cuppy barked. "Stop acting like little boys. So he caught you, eh?"

"Rather the opposite," Stopes said. "Ben seems to have caught *him*."

"Then have him out, and see what he has to say for himself," Mr. Cuppy ordered.

They were accustomed to obeying the little man, and made an involuntary move toward the closet. Ben Wellman's coagulator stopped that.

"I told you," he whispered, "to pile your guns here, and to stand back. I'm not fooling."

"I don't like this, Ben." Harold Stopes' tones were dead level. "I don't like your attitude."

"I don't like to be forced into it," Ben replied. "But I can't take a chance."

"All right," Stopes agreed. "We'll talk it out later."

They slid their weapons across the floor. Ben kicked them into a clump, pressed the wall stud, and Craig came blinking into the room.

He said nothing. He examined each of the men with a quick glance, raised eyebrows at Wellman.

"They think you're lying, Craig."

Craig shrugged. "You can check with Van Hooten, or with the donors on that list."

"Donors?" Mr. Cuppy barked. "What donors?"

"Who is he?" Craig demanded. "I saw him at Trading Posts. What's he doing here?"

"He's been hiding us," Wellman whispered. "Financed our model."

"What donors?" Mr. Cuppy repeated.

They explained to him, told him of the collection from colonials, the fund for freedom. Mr. Cuppy laughed nastily.

"Loren Bradley gave him the money," Mr. Cuppy asserted.

"That's a rotten lie!" Craig flared.

"I'm head accountant at Trading Posts," Mr. Cuppy said. "I ought to know."

"See, Ben?" Stopes said.

Wellman shook his long head. "Don't give a damn," he whispered harshly. "Craig has a reputation for honesty, and—"

"Are you calling me a liar?" Mr. Cuppy demanded. He got to his feet, took a step forward.

Ben Wellman pointed the coagulator. "Sit down!" Mr. Cuppy did so. "I don't know whether I'm calling you a liar or not, Mr. Cuppy. But we can sure check on Craig."

"Honesty," Mr. Cuppy said thoughtfully. "You raised the issue. Look here, Marten, are you honest? Is your word any good?"

While Craig looked at him silently, with unwavering eyes, Mr. Cuppy thought of the days when he himself had been like that young man—honest. He thought of those days with a nostalgic helplessness. Events had conspired, it seemed, to push him from one act to another until now, at long last, he had learned to live without the homely virtues of honesty, morality and consideration for his fellow man. Mr. Cuppy's jaw set. He had arrived at this point; he must maintain his position.

After a long, thoughtful silence, Craig answered. "I think I can call myself honest, all right."

"Then answer me this," Mr. Cuppy snapped. "You're an employee of Thorne Raglan. You're supposed to report that you've found these men. If you do, you're being dishonest as far as they are concerned. If you don't, you're double-crossing your boss. How can you claim honesty?"

This had a visible effect on Stopes, Gus, Foxy and the others. They smiled. They looked at each other and nodded.

"That," Craig answered, "is my problem. The toughest I've ever had to face, if you must know the truth." He continued with a quiet earnestness that had all their attention. "In any event, and I mean this as I never meant anything, the colonies come first. This is no half-cocked patriotism. Listen."

He collected his thoughts for a moment, and they waited.

"When the colonies were in an immature, early stage of development," Craig said, "they were wholly dependent on Earth. Since Trading Posts held the only process for operating spacers between planets, they were wholly dependent on Trading Posts. That was necessary, at first, when the colonies were not self-sustaining. But that situation no longer obtains."

Mr. Cuppy started to interrupt, but Ben Wellman cut his gesture off by pointing the coagulator directly at the little man.

"They are now inherently able to support themselves," Craig said, "if they can trade among themselves and trade with Earth as economic entities. Meanwhile, though, the Trading Posts monopoly has reached gigantic proportions, and everything clears through its main port here—at a fee which holds colonists in economic bondage."

Craig broke off. The pictures welled up into his mind.

"I'm speaking like a lawyer," he said. "I don't mean to. This whole problem gets me, down deep. You've been on the other planets. You know their frightening, tender, breath-catching beauties. You know of the sweat and blood that have flowed in our efforts to make them habitable. You know the pride that comes to a man after having done a good job."

"All that preliminary work, all the accomplishments, all that feeling of opening new frontiers for the benefit of mankind—well, imagine how they felt when the obstacles were hurdled, and they settled down to *live*. They found that Trading Posts had helped, yes, but in the helping had grown to dominate. It's almost as if they must give up a part of each breath they draw to Loren Bradley. Whether intentionally or not, he holds them in the palm of his hand. They live, yes, but

through the courtesy of Trading Posts, Inc."

He looked at them for a long minute, then went on:

"That isn't right, and I'll fight to overthrow such a situation. I'll fight any way I can. If I have to shatter a fine friendship with Thorne Raglan to protect these men until they can drive a wedge into that domination, I'll do it. Or anything else that's necessary."

He hadn't raised his voice, he hadn't become impassioned, and he had looked at each of the men as he spoke. When he was quiet, they murmured involuntarily.

"That's the stuff!"

"We all feel that way!"

Mr. Cuppy broke in. "Very pretty," he said. "As heart-warming a speech as ever I've heard. Step up the volume and you'd rouse the rabble. But you haven't explained receiving this fund from Loren Bradley. I know."

"Wait a minute!" Craig snapped. "I hadn't intended to make a speech just now, but while I was talking I also did some thinking. You say I got this money from Bradley, and you try to convince these men by pointing out that I'm double-crossing somebody, no matter what I do. Correct?"

"Correct!" Mr. Cuppy snapped.

"All right! You, whatever your name is—" He looked a question.

"Cuppy is my name!"

"Mr. Cuppy." Craig bowed, touched his forehead sardonically. "You're a trusted employee of Bradley's. Aren't you pretty much in my position? If you go through with these men, you betray your employer; if you don't, you betray this movement. Or," Craig said with conviction, "you're after personal gain. Which?"

Ben Wellman gave Mr. Cuppy no chance to answer. "There!" he said. "That's what I mean. It didn't occur to me in those words before. But it's each man's word against the other's."

"Here's another thing," Craig broke in. "Damn it, I wasn't trained in this business for nothing." He spoke directly to Stopes. "Is this the first time the little guy"—Mr. Cuppy flinched at the term—"has mentioned Bradley giving me any money?"

"Why, yes," Stopes answered in bewildered tone.

"And why?" Craig asked rhetorically. "Because he didn't know it, that's why. There'd be no reason for not telling you. In fact, there'd be every reason to burn me down at any cost. Not only would you rid yourself of a trailer, but you'd come into the money I had. I advise you," he said slowly, with emphasis, "to keep the little squirt here till you check on his story—and on mine. Nobody knew I had that fund but Van Hooten, and a certain colonial who turned it over for delivery to you."

Mr. Cuppy leaped to his feet. "You'll be well advised, all of you, to kill this insolent puppy. I won't even dignify his insinuations by answering them. I need no defense. What I have done in this great cause is defense enough."

"Sit down!" Ben Wellman commanded, and the deadly quality was back in his whisper.

Mr. Cuppy glared fiercely, but sat down.

"Well?" Ben said.

Harold Stopes scratched his blond head. "Your story sounds good, Craig, but you're a clever guy. I, for one, think we'd better keep you here, too."

Ben Wellman whispered, "It's up to you, Craig. If you want to go, I'll see that you get away."

"Look," Craig said. "You can't afford to keep me here. If I don't report at the office, Thorny will figure that I found you and that you captured or killed me. My movements tonight—it was really last night—are easy to trace. When they ask Tony Whalen, he'll tell them I left there with Ben. Before an hour went by, you'd have police and soldiers here. You've got to let me go. I'd stay if I could serve any purpose. Listen, I'll make a proposition." He turned to Wellman. "Ben, if you knew I was trying to double-cross this movement, would you kill me?"

Wellman snapped his fingers. "Like that!"

"Good! Now suppose Ben goes with me, stays with me every minute until you can check with Van Hooten and some of the donors on that list. If I get out of line, he'll burn me down. How's that?"

"What do you say, fellows?" Stopes asked. "I vote yes."

"Stay away from that blonde," Foxy cautioned Ben, rubbing his tender spot with reminiscent fingers.

Before they left, Craig spoke again to Mr. Cuppy. "I may be doing you an injustice, sir, but here's a theory that fits you. Suppose that you want only to build up a shipping business of your own. You must have some dishonest purpose, or you wouldn't have lied about me. I'm going to check up on you. If I'm right, you can save me the trouble of looking through a lot of cards. You can confess. Come on now, what do you say?"

Mr. Cuppy half opened his mouth. Foxy's remark about the blonde gave him the glimmering of an idea. He started to advise Craig to ask Jennifer about his own honesty. She was smart. The remark in itself would be enough to cause her to report to Bradley, and perhaps lead Bradley here. If he were found captive here, Mr. Cuppy reflected, he would certainly be in the good graces of Loren Bradley.

But Mr. Cuppy closed his mouth. This checking young fool of a Marten might delve into other



records before saying a word to Jennifer. No telling what he'd find.

"Go to hell," Mr. Cuppy said.

Craig and Ben went up to the landing roof, took off in Craig's taxi.

"You're the next problem, Ben. By the way, thanks for defending me. I'd have been in a hole otherwise."

Ben shrugged. "What do you mean, problem?"

"Where are we going to hide you?"

"Wherever you are," Ben whispered grimly.

"I can do more good," Craig said, "if I'm free to circulate."

"You can do more harm, too."

"You don't quite believe me yet, do you?"

"Would you, Craig, in my place?"

Craig considered. "No," he said honestly. "Well, to my hotel, then. I'll toss you to see who sleeps on the couch."

When they were in Craig's room, he asked casually, "Drink?"

"A short one." Wellman looked about the room. "Why are all hotel rooms the same? A bed, a visivox, a telaudio screen, a Sleep Maker with the same old music?"

"What do you want, a Six-Two game?" Craig asked lightly. He poured drinks, adding a white powder to Wellman's, shielding the act with his back.

They touched glasses. "Freedom," they said.

When Wellman began to show the first signs of drugged drowsiness, Craig said, "Believe me, Ben, I'm on your side, all the way."

He put Wellman to bed, relieved him of the coagulator, set the Sleep Maker to wake himself in three hours, and fell on the couch. He was almost instantly asleep, wasting no thoughts on the serious, deadly problems of tomorrow—today, really. He'd deal with them when they arose.

VI.

The big, suave, sleek gentleman raised a hand, palm outward, to silence the appreciative titter at his last quip. The robed members of the World Congress composed themselves hopefully. The speaker sounded as if he were about to conclude his address in behalf of the Interplanetary Trade Commission. If they were attentive, this Commissioner Delhaven would finish all the quicker.

Commissioner Delhaven beamed into the quiet, then broke it with smooth rhetoric.

"To conceive of limits to the wisdom and power of those whose realm is infinite is obviously to conclude that they are infinitely competent to administer, to adjudicate, to execute: for there can be no relation between the infinite and the finite save infinite disproportion. And so I say to you, gentlemen, that from the rock-bound wastes of Jupiter to the sunny deserts of Mercury, our eye is everywhere. Our hand, the hand of justice and right, rocks the new cradle which is the new and infinite world!"

He bowed, moved from the speaker's rostrum to a polite if confused patter of hands. Most of the members of the World Congress had been lost somewhere along that stormy path of adverbs.

The clerk announced: "Ambassador Jorg van Hooten!"

A respectful hush fell over the assemblage as the young diplomat came to the rostrum in his green robes. He looked at them gravely, and a few hands clapped greeting, for the young man had won their admiration. He cast a grave look at the preceding speaker.

With a slight shrug of incomprehension, he turned to his audience.

"I have been told recently by Loren Bradley himself," he began, "that he will oppose by every means at his command any move which threatens the economic interests of his sixty million stockholders. Nor do I blame him. They have invested their money in good faith, and he must protect those investments.

"Yet I find, upon examination, a situation which almost defies belief. We believe it. We must. It is true. But it is well-nigh incredible.

"The situation to which I refer is this: The World Congress, here assembled, has been jockeyed into a position where it is dominated by one man who is not even a member of this body. Furthermore, every moment of inaction by this body, every moment of domination from this time forward is measured in blood."

A murmur ran across the great hall. Faces set. Shoulders straightened.

"You think that a fanciful statement?" Van Hooten continued. "Listen to these reports of last week. An uprising at Mars Port Main, one hundred killed and wounded. Venus City riot written by the blood of twenty. Plutarchia numbers twelve dead.

"That was in the colonies, you say. We are at peace here. I warn you now, you cannot afford the price of that kind of peace, for violence will overflow the planets and engulf the Earth. You cannot subjugate your own people!

"My mother was a Duvain, a name high on the lists of honor on this particular continent. From the time I was able to understand, I have been

told of that historic uprising which threw off a vicious yoke. History, as you should know, repeats itself. That was not the first time a people with freedom in their hearts wrote the word on the pages of history with the blood of their professed master. Nor will it be the last. You cannot put the will to freedom on a leash. It will always turn and rend you in the end.

"Loren Bradley wants to save the pennies of his investors; I want to save their lives."

The assemblage was deadly quiet. Every eye was fixed on the young man whose earnestness, whose honesty, had won him a place shared by few.

"It is the fault of none that the situation arose," Van Hooten said quietly. "I do not wish to rant about big corporations and the little man. I don't believe that Trading Posts, Inc., or its personnel, are oppressors by nature. But I know that continuance of the present situation will place them in that role, and make every member of this body a murderer.

"Listen.

"When the first colony was established on Mars, an earlier Loren Bradley owned and controlled the only means of transportation between planets. How he gained that control is beside the point. It is much too late to right the wrongs of our forefathers. He had it.

"The World Congress which grew out of necessity at that time granted him the right to retain his secret process, and the right to protect it as he saw fit. If he squashed young men who sought other means of propelling spaceships than with Baltex, it was only natural, in those confused, competitive years.

"But let us grant the truth of statements issued by the Interplanetary Trade Commission. Let us not infer that that august body was influenced in any way by Trading Posts, Inc. Let us believe that no other process has been developed which is safe. After all, those gentlemen are charged with the safety of humanity, and they do well to let caution temper their rulings.

"But such a process has now been developed.

"I have been assured by competent persons, and I have seen the inventors, that the process is not only revolutionary, but that it is one hundred percent more efficient than that through which Trading Posts has prevented the colonies from trading among themselves.

"The colonies will revolt now, and with bloody vengeance. They have a concrete object now to spur them on. Heretofore they have essayed independence only for an ideal.

"I am almost finished.

"They do not ask independence of the mother planet, as you and I would ask. They ask only the right to go next door and borrow a cup of

sugar—without clearing through the Earth office of Trading Posts, or without paying a tithe to Trading Posts for that small social privilege. They wish to remain colonies of Earth. They demand only the right to live and swap produce with their neighbors like human beings.

"This is a small thing, when you have it. But it looms larger than the universe when you must fight for it. I say to you now, that unless you grant them this right, and signify your determination to enforce it, the very starlight will be red with the blood of your kinsmen, and you shall have wielded the knife. Loren Bradley's intention to protect the savings of his investors is laudable, but is it not far more important that we preserve peace, and life?"

"One more point. I said earlier that Bradley dominated this body, and a murmur of dissent stirred you. Gentlemen, look at the simple fact. We are bound by the wishes of our constituencies. The sixty million stockholders of Trading Posts is a tremendous voting bloc. If Bradley stirs them by economic fear, pointing out that if Trading Posts relinquishes one load of shipping, those investors will suffer a loss in dividends, then they wield the balance of power.

"Since my voice and image are being projected to all parts of the Earth, I speak now directly to those investors. In the name of humanity, for the sake of human life—your own among others—do not let a dollar sign cloud your vision. As surely as you do, the colonists will descend on you in an avenging horde and you will pay with blood.

"Not possible? Not this year, perhaps. Perhaps not next year. Perhaps not in your lifetime. But some day, for a free people will ultimately break a conqueror's shackles and stuff them down his throat. So, if you personally are not forced to pay the debt, your children will be.

"Or their children."

Jorg van Hooten went to his chair. The members of the World Congress did not applaud. Their eyes were straight ahead. They were thinking.

Craig leaned across Thorne Raglan's desk, touched the audiscreen stud, and the scene of the World Congress blanked out. Craig leaned back in his chair, shook his dark head in mild wonder.

"Sometimes I think honesty is the best politics," he said. "If you're honest, and want to pour it on, people believe that what you're saying is really important. Which it is, in this case."

Raglan gave him a shrewd look. "Somehow I think this is going to cost me money. What's the matter with you?"

"I've learned some things," Craig said, "and I want to know where you stand. You're familiar with the colonial problem?"

Raglan gestured at the empty screen.

"Then I'll skip backgrounds," Craig went on. "I saw Van this morning, just before he caught the stratoliner for the congress. Well, the war is on, as you see. We're in a position to stop it or make it worse."

Raglan said nothing. His moon face lost no geniality, his eyes retained their twinkle, but his chubby hands tensed on the plastic desk top.

"If I find Wellman and Stopes, Thorny, and I think I can very shortly, then you'll report to Bradley. He'll pick 'em up, and—"

"Who told you Trading Posts is our client?" Raglan asked quietly.

"It's obvious, isn't it? To go on—Bradley will keep that process off the market, and there'll be hell to pay."

"Just what do you want me to do?"

"Fail to report to Bradley until the boys get a spacer in operating condition."

"You've found 'em, Craig. Where are they?"

Craig sighed. It came off pretty well, he thought.

"Listen, my fat friend. Don't I make my reports promptly? When I find what I'm told to find, don't I let you know? Then if I had found Wellman and Stopes, wouldn't I have reported?"

Raglan said quietly, "Go on."

Craig spread his hands. "That's all. All I ask is a little more time for them. Look what goes on. After Van's speech, a resolution will be introduced. It will ask that a clause be inserted in the Trading Posts' contract. It will be sent to a committee. Meanwhile, Bradley will get his share of communistats demanding that he keep hands off. And the congressmen will get a flood demanding that they grant the colonies their demands. That was a swell speech Van made."

"So? And then?"

"Look at the psychology, Thorny. If you tell Bradley we're on the verge of finding the boys, he'll lay off. So the legislation will go through without opposition. Then Wellman and Stopes will spring their new spacer, and everybody will be happy but Bradley."

"Before I say what I'll do, Craig, I want one more answer. What makes you think Bradley will lay off?"

"Put yourself in his place," Craig said impatiently. "All the colonists want is ships that don't clear through Earth. All right. If Bradley figures he can . . . ah . . . acquire the Wellman-Stopes process, he still will hold a monopoly on propulsion. Then Trading Posts will furnish the intercolonial ships. It will mean that the Earth terminal suffers a slight loss, but the company still has control. Which it wouldn't if a rival concern sprang up in the colonies."

Raglan leaned back, folded fat hands. "Craig, I've spent fifteen years building Hunt Club. It's

strictly a business venture. I never have taken sides on a political question, and I can't now. If you can find Wellman and Stopes, find 'em and turn in your report."

"But this isn't just a political issue! Lives are at stake. Van wasn't exaggerating."

Raglan sighed. "I'll try again. Regardless of how this colonial trouble comes out, Bradley will still operate Trading Posts, and that's a hell of a sight bigger than Hunt Club. He'd smash me if he found out I'd crossed him. I don't want to be smashed."

"He needn't find out."

"When I returned his fee, he'd smell something." As Craig started to speak, Raglan cut him off with a pink palm. "I have some notions about honesty, too. The main one is to play fair with my clients. Hunt Club's reputation is clean. I'll keep it that way."

Craig frowned down at the floor, and spoke as if to himself. "I'm on the other side of the fence. I don't know what to do, Thorny. I don't want to quit, and I don't want you to fire me. I like this job, I like the work. But the colonies are much more important to me. Is there some way you could let me take the blame, and the consequences?"

"I don't think of any offhand, Craig."

Craig got to his feet, paced back and forth. The situation was deadly serious. Thorny was his closest friend. Though he was ready to let friendships go by the board in the interests of the larger question, his readiness was intellectual in origin. Emotionally, he wanted to lay the true picture before Thorny. He wanted them to work a way out together, as they had always done.

But in so doing, he also knew that he should in effect betray the whole movement in which he had become enmeshed.

There were yet so many things to do. They had to find a spaceship, build a converter, and demonstrate the process. Mr. Cuppy's position had to be clarified.

He faced Raglan abruptly. "Listen, Thorny, I want to tell you something as a friend, strictly confidential."

Raglan made a face of distaste. "Damn it, Craig, I don't like to be put in that position. This is a business. We ought to save our emotion for a binge. I don't know what you're going to say, but I can tell by your expression I won't like it."

Craig let his breath out. "All right," he said. The impulse was gone. "It wouldn't be fair. Let it go."

He went into his office. His mind was clear; now. The main objective was the same as it had been, to keep Wellman and Stopes free from Trading Posts. But he also determined to keep Thorny in the clear, regardless.

He called his hotel room on the visivox. After some delay, a masked Ben Wellman answered. In Craig's desk screen, the mask was opaque, but beneath the stenciled legend, "private," he could almost see Ben's throbbing head.

"How do you feel?" Craig asked.

Wellman groaned. "Some bears made a den in my mouth. What happened?"

"I'm sorry, Ben," Craig said contritely, "I gave you a blackout powder. I had to. I have to do a lot of things, and you couldn't tag along safely. But I'll make it all right with you. Will you stay put, and not answer the door?"

Wellman nodded, swore and cut the circuit.

Craig then placed his spinning head on his arms. He tried again, as on the night before, to fit all the stray facts into a connected pattern. Jennifer Jones refused to fit.

Jennifer, he thought, jumping his mental track. Myohmyohmyohmy! Jennifer. Followed. Who? Ex-suitor? Jealous father? She won't talk about herself. First one I ever knew wouldn't. Must look her up.

He jerked himself back to the problem. Such purple reveries were pleasant, but they didn't produce answers. Answers were what he needed. For instance, who is Cuppy, the little man with the big temper?

It seemed fairly clear to him that Mr. Cuppy was in the picture for private gain. The thought had occurred to him last night, and his subconscious must have worried it while he slept. It amounted now almost to a conviction.

He needed more information. Perhaps he would call on Bradley then with a proposition, its terms depending on the pattern.

He went into the file room, and was drawn by an inner compulsion to the "J's," passing for the time being those files where information on Mr. Cuppy might be listed. Jennifer Jones was not listed. He looked through the Mars file of some twenty years back. She had said she had been born on Mars. He found no Jennifer Jones, but he found a Jennifer.

Jennifer Boardman, born to Martha and Eric Boardman. No more. Just an entry in vital statistics.

Craig gave it up and looked for Mr. Cuppy. There was a small dossier.

How the mighty have fallen, Craig thought as he followed the saga of the little gray man in brief, emotionless entries. Once third vice president of Trading Posts. Legal trouble. Battle over stock. Decision for plaintiff, Loren Bradley II. Countersuit, settled out of court. Mr. Cuppy named head of accounting department.

So that placed Mr. Cuppy, Craig thought. All but one point. His salary was listed, and though it was generous, could he have saved enough to

finance the experimentation of Wellman and Stopes? Craig resolved to check that point. He had no idea of how costly the experiments had been, but checking was a routine matter.

He went back to his office, called Ben Wellman again, and asked the guarded question. Wellman named a figure, brusquely, and cut off again. Craig whistled. Science came high. Where, he now wanted to know, did Mr. Cuppy get the money? It was a query to put to the little man himself.

Jennifer Jones remained. On an impulse, Craig called her on the visivox. Presently her face filled the screen. She gave a little cry when she identified Craig, and hung her mask on her face.

"What are you trying to do," she demanded through the mask, "count my wrinkles?"

"I've just finished a job I was on," Craig told her, "and would like to do a little celebrating. How about starting with lunch?"

"Good!" She sounded very excited, Craig thought. Maybe, he added mentally, she's beginning to glow when she thinks of me. He hung a foolish grin on his face as she went on. "Give me three hours, Craig. My youth needs refurbishing, after that session last night."

"Sure, baby," he said softly, and cut off.

What's the matter with me? he asked himself fiercely. I clean forgot I was trying to find out where she fits. What's she doing to me?

He shrugged, grinned at the empty screen. Whatever it was, it was pleasant, and it wouldn't kill him.

The tension he had been working under, combined with his meager sleep ration, began to catch up with him. He went into one of the rest rooms, set the Sleep Maker to wake him in two hours and a half, and drifted off to its soothing strains.

Refreshed, he cut off the mellow voice which said, over and over, "Time to get up. This is the time you wanted to waken. Time to get up. This is the time—"

He dashed his face with cold water, and went up to the roof for a taxi.

A couple of large young men, very large and hard-eyed, fell in beside him as he emerged onto the flat surface.

"You got two alternatives," one said. "You can tell us where Wellman and Stopes are, or you can come see Mr. Bradley. Take it from me, chum, and tell us."

Craig's heart fell. He knew where Jennifer fitted now. His face set. He looked at his captors.

"Let's go!" he said harshly.

VII.

Loren Bradley's dark face lost none of its expression of quiet power tinged with arrogance

as he sent the two huskies away. When they were alone, he smiled at Craig, waved him to a chair, and touched his forehead with two fingers.

"Mr. Marten," he said pleasantly, "I've wanted a talk with you for some time."

Craig was somewhat startled at this reception, but decided to play it Bradley's way. He sat down, returning the smile.

"It isn't often that a common working man is . . . uh . . . invited to see the Master of the Universe."

Bradley twitched a faint grin, and abruptly plunged into a proposal. "I've heard of you, off and on, for several years, Marten. You've made a reputation as a sensible, honest and at times brilliant young man. One would say that your future prospects were bright indeed."

Craig said nothing. The big man's pause was rhetorical, anyway, he figured.

"You have no idea," Bradley went on after a second or two, "how difficult it is to staff this organization with men of caliber. You are perhaps familiar with our system of advancement?"

Craig thought of Mr. Cuppy, but realized that he was not a fair sample. Trading Posts was known to be good to its help. He nodded.

"I believe we could make a place for you, Marten. Not anything sensational to start, of course. Department manager, say, until you proved yourself. At a mutually satisfactory salary, of course."

Where, Craig wondered, is all this leading? He felt a slight chill of apprehension.

"You tempt me," he said. "I'm sorry, but I'm tied up pretty tight with Hunt Club."

"So you are," Bradley admitted, "but ties can be broken—one way or another."

"Well," Craig said slowly, "suppose I agree. What happens?"

"Then you go to work for us."

"No more?" Craig could not keep the surprise from his voice.

"More?" Bradley echoed. "Why should there be more?"

Craig frowned in concentration, seeking the chink in Bradley's proposition. He couldn't see any, and decided to force the issue.

"All right," he said. "I'll take you up. When do I begin?"

Bradley looked at Craig for a long moment, then smiled.

"I had expected more opposition from you, but I see you're more intelligent than I thought. You're right, Marten, there is no point in fencing. You can have the job, all right, and name your salary, if you'll lead me to Wellman and Stopes—now."

Craig put on a mournful face. "Damn! I guess that lets me out, Mr. Bradley. I've been trying to

find them for a long time."

"Oh, stop it!" Bradley said curtly. "I know you know where they are. I intend to have that knowledge from you."

Craig looked bewildered. "You're mistaken, sir."

Bradley sighed. "Believe me, Marten, I hate to resort to crude methods. They indicate a lack of ingenuity. But I'm in a hurry. Time is vital. You'll save yourself trouble—indeed, you'll profit—by telling me now. For in the end you'll tell me, before those boys who brought you here finish with you."

"May I ask a question or two?"

"Certainly."

"Suppose you find Wellman and Stopes. You either buy or steal their process, and keep your monopoly. But it will gain you nothing in the

end. Eventually, some Martian or other will solve the secret of Baltex, and you're done for."

Bradley shook his sleek head. "The ruling that Martians cannot approach within five hundred feet of a spacer was established by my grandfather—before he knew that the process cannot be duplicated anywhere except on Earth. They can solve and be damned."

"I don't believe you. You still enforce the ruling."

"That's for psychological effect. Listen. Necessary raw materials for Baltex are beryllium and lithium. There are none on Mars, the Jovian moons, or the asteroids. There's a little on Venus, but so little and so damned dilute it can't be worked. Trading Posts owns all the deposits on Earth. You see?"

"Poor Van," Craig said softly. "He counted on that for a long time. All right, Mr. Bradley. So



they can't use Baltex. But this process of Wellman and Stopes is known in theory, at least, to more than half a dozen persons. The principle is no secret."

He sketched in the underlying features of the converter-oscillator, the special spatial conditions.

"The fuel can be anything," Craig went on, "producing power, as I get it, by a sort of radioactive decay at an oscillation rate of maybe a hundred million cycles per second. You see how simple that is to grasp?"

"Make your point," Bradley murmured.

"The point is this. Even if you could get this process and shelve it, if that's what you want to do, you only postpone the day when somebody else will bring it out. Then you'll pay through the nose, or as Van Hooten says, your children will. So why don't you give in? Co-operate. Do you want the whole universe? Isn't there room for anybody else?"

Bradley sighed again. "I'm getting very tired," he said, "of amateur politicians yelling about monster corporations that seek to swallow the System. Don't you think I'm flesh and blood? Don't you think I have a conscience? Don't you think I have problems? I have sixty million shareholders who look to me to keep this company solvent. My first thought is for them. Of course there's room for other organizations, and I want to co-operate. But I want any new development to take place sensibly, without throwing world economy out of balance. Now. Where are they?"

"Those are just words, Mr. Bradley. I repeat, I wish I knew where they were."

"Very well," Bradley said dully. "Believe me, Mr. Marten, I have no stomach for this sort of thing."

He pressed a stud. The two huskies re-entered.

"He has some information I want," Bradley said in a pained voice. "Don't be any rougher than necessary."

They took Craig by a devious route to what was apparently an empty storeroom. Each held him by an arm, and each asked him solicitous questions at intervals.

"I say, old man, am I hurting you?"

"I trust I'm not too rough, chum?"

"Shut up!" Craig snarled.

When they had him inside the big empty room, one swung a hard right to his jaw. Craig fell, skidded across the floor, sat up dazed.

"Oops!" the man said apologetically. "I'm afraid that one slipped. Are you hurt? Let me help you up."

He raised Craig to his feet, locked his arms behind him. The other husky brought constellations into Craig's head and tears to his eyes with a stinging, open-handed blow.

"Really," he said affectedly, "I do beg your pardon, old fellow. I forgot that I'm left-handed. I should have used it."

He swung his left hand, and Craig's head exploded again.

"Ah-ah," cautioned the one who held Craig's arms. "Remember what papa said, no rougher than necessary."

"I forgot," said the other apologetically. "I got carried away, just completely."

Craig gritted his teeth, said nothing. They stood him against a wall and slapped him. They kicked him in the stomach. They elbowed him in the throat. They twisted his arms. They apologized after each indignity.

This went on for some time.

He was halfway back to Bradley's office before he realized they had stopped beating him. He remembered vaguely a voice which had seemed to issue from a monitor, but had no idea what it said. They took him inside the luxurious office again and poured him into the chair. Bradley spoke sharply to the two men, but Craig was still out of focus and didn't get the words. He remembered that the two hung their heads in mock shame and tiptoed away.

Then Bradley became clear to him, as well as a myriad aches and pains. Bradley was apologetic.

"I'm sorry, Marten," he said. "That wasn't necessary, after all."

"If I get any more apologies," Craig mouthed through swollen lips, "I'll shoot somebody. What do you mean? Did you find Wellman and Stopes?"

Bradley shook his head. "No. But I thought over what you told me, and decided to adopt your plan. Co-operation. After all, why should I stand in the way of progress?"

Craig mustered as much of a cynical grin as his mouth could manage, and Bradley chuckled.

"Why pretend?" he said. "I'll tell you the truth. You'd work it out, anyway. That young, earnest, and thoroughly admirable fool, Van Hooten, managed to stir up a hornets nest. We have been receiving an average of one thousand communications per hour since he spoke this morning. All are indignant at me, and most of them from my stockholders. Furthermore, Trading Posts stock is falling. I informed my representatives in the capital that we should not oppose any legitimate measure granting Van Hooten's demands. I understand that a bill is being drawn up at the moment and may be voted on today."

"What's the catch?" Craig demanded.

Bradley made a face of dark sorrow. "Even when I act with sincerity, you ask what's the catch."

"All right," Craig said noncommittally, "what do I do now?"

"Whatever you wish. May I give you a check as payment for the treatment you received here?"

"Never mind," Craig said shortly. He got to his feet. "I have a long memory."

"And I, too, Mr. Marten." Bradley's face had lost none of its suavity, but his eyes were dark and smoldering. "Some day I shall have an opportunity to repay you for today's events, for I feel that you are behind them."

"I'll look forward to it," Craig said.

Craig took a taxi from the roof, ignoring the curious stare of the pilot, to Jennifer's apartment.

She caught at her throat at sight of his face. "Come in," she whispered. She made a motion to touch his bruises with white fingertips, but he twisted away.

"Your handiwork," he said shortly. "Thanks."

She stood wide-eyed in the center of the room for a moment, then dropped her glance.

"You'll never know," she said faintly, "what a struggle that decision was."

"What decision?" he asked harshly.

"It was you or father," she murmured. "Believe me, Craig, I didn't think this would happen to you, or I'd have let him go on. After all, he isn't too badly off."

"Stop talking in riddles," he snarled.

She told him the story, and her name. He remembered the entry in Mars' vital statistics. Eric Boardman. She told him how a large sum was unaccounted for by an audit of some months before, how the evidence pointed at Eric Boardman.

"But father is so transparently honest, and he was so earnest and willing to do anything, that Mr. Bradley let him stay and pay it out a little at a time," she said.

"The rest of his life," Craig commented.

"But he was so happy for the chance," she said. "It was the stigma that worried him, not the accusation. He knew he was innocent, but was willing to do anything not to be arrested."

"And where did you come in?"

She colored. "Well, you may not have heard of me, coming from Outside. But I'm just beginning to make a name for myself as an actress. Mr. Bradley knew this, and called me in the other day. He offered to wipe father's debt off the slate if I would follow you and report when you'd found the men you were after. So when you told me this morning that you'd finished a job, I re-

ported it to Mr. Bradley. He didn't believe me, because he said Mr. Raglan hadn't reported to him. Then he said he'd do some investigating of his own, and if I was right, he'd give father a clean slate. That's all."

"Is it?"

She colored afresh under his steady gaze. "Except," she said, "that it took me nearly two hours to make up my mind. I tried to call you back, but you weren't in, they said. It was very hard, Craig."

He eyed her keenly. "Actress, eh? Are you acting now?"

She met his eyes steadily. "I'm not acting now."

"Now," he said as crisply as possible through swollen lips, "how much was this sum your father was accused of stealing?"

She told him, and he attempted a whistle that didn't come off.

"Did he have any ideas on where it might have gone?"

"There was only one other person who might have taken it. But father said that was fantastic. He and Mr. Cuppy were old friends; still are."

Craig tried another whistle. "Wait a minute. Can I use your vox?"

She gestured, and he called a friend in the local clearing house. "Look, Sam, can you find out if a Mr. Cuppy, mucky-muck at Trading Posts, had a sizable bank account about six weeks ago?"

"What happened to your face?" Sam asked.

"Fungus," Craig said.

Sam grinned, said, "Hold on," and disappeared. While he was away, out-of-focus shadows blurred the screen, and an unintelligible hum emanated from the clearing house. Sam popped back into focus, said, "He could have gone on one good drunk, but no more."

"Thanks, Sam."

"Better put a page on that face," Sam advised.

Craig turned to Jennifer. "We're skipping lunch. Come on. Things are beginning to happen at last."

They took a taxi to Craig's hotel, collected Ben Wellman, and headed for the apartment where Harold Stopes and the others presumably waited.

"Are you sure you didn't hit me with a rock, too?" Ben asked in a grievous whisper.

"I said I was sorry," Craig said. "I've got some terrific medicine for it. Wait till we see the

*"Snap" INTO
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others, and I won't have to tell it twice."

When they reached the apartment, Craig went to the visivox first and put in a long-distance call for Jorg van Hooten. While waiting for the call, he turned to the room to find Mr. Cuppy glaring at him, and Foxy regarding Jennifer with an embarrassed scowl.

"You ought to be ashamed of yourself," Foxy admonished her.

The others, Gus, Harold Stopes and the remaining two, watched Jennifer with unabashed and admiring eyes. Mr. Cuppy continued to glare.

The call was put through. Van Hooten grinned at Craig, and touched his forehead.

"Now don't be hysterical, Van," Craig cautioned. "What goes on?"

Van Hooten read from a sheet of plastic.

"Listen, Craig. 'Be it further enacted that any responsible person or persons, able to qualify in all respects before constituted authorities, are hereby authorized to operate approved transportation facilities between planets, independently of and in addition to existing organizations engaged in such pursuit.' That's the main clause, Craig, but it means victory. I sent off radiographs, and there is peace in the colonies. Celebrations, too, I shouldn't wonder. What's that noise?"

His question was almost drowned by the sudden burst of cheers from behind Craig.

"Just a bunch of the boys whooping it up," Craig said. "Look, Van, I'll see you. Maybe we can get to Port Main before the fun dies down. I'll be going back, I imagine."

He cut off, turned to the room. "There it is. All you have to do is meet specifications. You'd better go to Mars with me and reconstruct scrap ships from the bone yard there. They're good enough. Now, Mr. Cuppy."

Mr. Cuppy had wilted. He had lost his glare.

"Mr. Cuppy, where did you get the money you furnished for these boys to experiment?"

"I earned it," Mr. Cuppy said with weak defiance.

"So you'll let your old friend Eric Boardman work the rest of his life away to pay off your debt?"

Mr. Cuppy didn't move for a few seconds. Then he looked up, and the old light was back in his eyes. "Give me that vox," he snapped, and stood before it.

When Loren Bradley's features filled the screen, Mr. Cuppy spoke with gentle sarcasm.

"Ah, Junior, I touch the head. I am not in my office, Junior. Do you know why? Because I did not choose, Junior. Furthermore, I have some news for you, to add to the glad tidings. Your cup is filled today, Junior, isn't it?"

"Quit the persiflage, Mr. Cuppy," Bradley said wearily.

"Very well! In the matter of Eric Boardman, he is innocent. I stole the money." At Bradley's widened eyes. "Yes, I stole it. I had a chance to ruin you, Junior. Should have, too, but I ran into a bunch of people who believe in something. That was too big for me, as it was for you. People like us, Junior, will always find, I am afraid, that belief in ideals will defeat us. But no matter. I wanted to tell you that you are not going to take action against me in this matter. You can't afford to. I have not been in the confidence of three Bradleys for nothing. I know many embarrassing facts, Junior, and would be happy to spread them, as I am happy to vindicate my friend Eric. I didn't want to place him under suspicion, but it was in a good cause, the defeat of Trading Posts. Good-by, Junior."

Mr. Cuppy cut the circuit. Jennifer ran to him impulsively and kissed the wrinkled cheek.

"That was very brave," she said, wet-eyed. "Thank you."

Mr. Cuppy sniffed. "What's brave about it? He doesn't dare do anything."

He nodded curtly, and bustled out.

"Let's go," Craig said to Jennifer. "One more errand, and then we paint the town."

He shook hands around, made tentative agreements to help them set up a corporate structure for their shipping company, and dragged Jennifer off to Hunt Club, Inc.

"You wait in the taxi," he said to Jennifer. "I'll be back in a minute."

In Thorne Raglan's private office, he said abruptly, "All right, Thorny, I found 'em. They'll be at this address for the next hour or so."

He wrote the number on a pad.

Raglan glanced at it, then at Craig's bruised face. "What happened to it?"

"Comets," Craig said.

Though Raglan had seemed indifferent to Craig's report, he noticed that fat fingers were busy with the visivox controls, and when Bradley's features came on the screen, Thorny had attention only for them.

"Hiyah, Lorry! Hunt Club delivers again, chum. And don't forget the bonus, in addition to the regular fee. I told you Craig would find Wellman and Stopes. Here's the address."

He read it, and he and Craig were treated to the highly unusual spectacle of Loren Bradley IV spluttering helplessly.

"Don't forget the bonus," Raglan repeated, and cut off.

"See you later," Craig said. "I got a date."

"The next assignment," Raglan called after him, "you report to me *when* it's finished, not after you've done a lot of political phenagling."



INTERLUDE

By Ross Rocklynne

● Two scientists couldn't overthrow the dictator; they knew too much about his powers and his dangerous methods. But a dim-witted cave-man, without sense enough to be scared, offered something new—

Illustrated by Fax

Uggl, wandered far from his native country, sat cross-legged, hunchbacked, at the mouth of his cave, his dolichocephalic head bent over the thigh-bone of his morning kill.

As he gnawed, he mumbled, and there was a sullen anger running through his mumblings. He was in land his people had never discovered, nor would have entered even if they knew of it, for it was cold country, and did not run with game as the warmer countries of the south. Uggl, who had fought for the chieftancy of his tribe and by virtue

of the breaking haft of his ax had lost his battle, saw in flight the only salve for his humiliation. Thus, in addition to near starvation, there was in him a fury that he should still feel shame for his pitiful downfall. He could not flee the memory of his shame, and he longed to come across another tribe, so that he could become their chief. He was ready to challenge the strongest of such a tribe, if only he could fill his belly with meat to make him strong.

Under these Pleistocene skies, though Uggl was

not aware of such an appellation for his era, and could not guess at the incredible creatures who in the next hundred thousand years would rule the world, flying like the eagle, making weapons with the potency of thunder and lightning, he had searched for many miles, and there were no other tribes. He had come to a country that was uninhabited! How, then, would he salve his wounded pride?

The thighbone, the meager one of a mere jumping jack of a white hare, clattered down the dry wash which fronted his cave, and he sat there, scowling at it as it slid, taking with it a small avalanche of chip rock and twigs. His heavy, brutish face, his low, receding forehead, his prominent eyebrows, his receding chin, writhed in surprise and wonder, then; and a guttural sound of pleasure emanated from his hairy throat. On his thick curved legs, drawn like a bow, he came to his feet, and slid and clawed his way down the dry wash, and from the debris he took the glowing, egg-shaped jewel which the thighbone had witlessly uncovered.

Uggl was lost in intense admiration. He held the large jewel up to the light and turned it this way and that, noting the mellifluous changes of color, the mellow internal fires of this wondrous egg. That it was not an egg he knew, however, for in places it was translucent so that he could see his stubby, hairy fingers through it.

There, on the ground, he squatted, making a continual clucking, guttural sound of pleasure, tossing the egg into the air with one hand and catching it in the other. Then, again remembering his pitiful starving body, he essayed to think of some way in which he could retain this miracle of light and glory without keeping his grasp on it; and so it was that he returned to his cave, and through the waning afternoon of this Pleistocene day, worked at the pelt of the hare he had slain; worked with sharp flint chips, cutting out a pouch and a thong to hang the pouch around his neck.

The jewel now was half exposed, half inclosed by the pouch, and was indeed a magnificent object which added somewhat to his beauty. He left the cave, his long hairy arms swinging, mumbling his joy and his dire anger at the same time. When he came to the stream, which ran with ice water that shivered him to touch it, he leaned far over and viewed himself and the flame that burned without hurt against his matted, hairy chest.

How beautiful and fierce it was! And, indeed, it was burning even more brightly with each passing second. Burning, and the flames coiling out from the interior until it was like the setting sun. There was a radiant beauty about Uggl then, and he thought to himself in awe that if he should ever run across another tribe, they would run, shrieking; but in such a case, he would have to roar but once, and they would all cower, for they

would think that he had descended from the Sun and come to rule them.

So Uggl dreamed his luscious dreams while the fire from within the jewel leaped into coruscating intensity, drawing its energies, unbeknownst to Uggl, of course, from the very warmth of his body.

Growing! Burning more fiercely! Inclosing his body so swiftly, now, that he felt only the faintest thrust of alarm. Then the points of sharp bones prodded at the cells of his body, and he felt himself grasped in an invisible giant's fist, and vibrated so swiftly that a haze settled across this Pleistocene world.

He cried out. He lost his balance, and the waters of the stream were coming toward him and he saw himself reflected, hands outstretched, horror on his face, mouth open in an unborn scream of terror. The water! He would be immersed in its chilling depths—

But Uggl never felt the unwelcome gelidity of the waters of that lost, as yet unnamed land of Scandinavia. To one watching, it would have seemed that Uggl had disappeared into thin air.

Uggl came to, warm, drowsy and still hungry. He was lying on a hard, warm surface. As soon as his thoughts fell into place, forming the pattern of complete consciousness, he knew, of course, exactly what had happened. A cowardly enemy had come up on him from behind, struck him down with a cruel blow, and carried him off to his cave. Uggl then came to his feet with a roar to strike terror in the breast of the most brave. That there was a strangeness about him did not occur to him. That he was standing on a metal dais inclosed on two sides by conelike metal projections trained on him; that this was a rectangular cave, cluttered with heavy, shiny, regularly shaped rocks; that there was an opening in the cave some twenty steps away meant nothing. That there were two enemies standing before him meant much, and, indeed, totally solved the problem of his strange experience.

Thus, toward them he leaped, forgetting, at first, the fire of his jewel, but remembering, in the midst of his leap, that his two enemies would be turned to stone by this evidence of his godhood.

It was he who was turned to stone, for the smaller of his two enemies had something in his hand which shot out purple heat-waves. These waves struck Uggl, and all the mightiness of his body drained away, and the nerves of his spine would not transmit his will, so that he fell, stiff, upon the floor of the cave, and there lay, striving with primordial violence to loose himself from an unseen enemy. His mouth could move, but emit no sound; his arms could wave, feebly and helplessly, but without strength to lift him. And

so he lay there, once more robbed of rulership, and listening to the sounds which emanated in curious rhythm from the hairless faces of his conquerors.

"*Homo Neanderthalensis!*" said the younger of his two captors, with a bitter laugh. With a convulsive, entirely unconscious motion that was a characteristic of every member of his race, he ran a finger around the constricting inner edge of the collar unbreakably fastened around his neck.

Then, also unconsciously, his unsuccessful fingers dropped away. He turned to the older man, his eyes frightened of the future, and yet flashing with a controlled savagery. "And that makes us *Homo Stultus!*"

"Man the Fool," nodded the other, smiling faintly, and pretending as if he were appreciating a good joke, but at the same time feeling the appellation was correct. "Yet, fifteen trials don't make a complete failure, Robet."

"Fifteen trials such as ours do. There's a fundamental inadequacy in time itself which makes it impossible for us to throw the time-jewels back to the time of intelligent man. Fifteen trials! Lizards, snakes, rabbits, cattle, horses—ugh! And finally, our nearest success—that—finally and completely proves our failure. We've shot our bolt. The 'egg' was calculated to land in the twenty-second century. There! Look!" He crossed the room with quick, nervous stride, a rasping, half-hysterical note entering his voice. He tapped at the vernier controls of the power unit, tapped insistently, with a wild bitterness that was irritating to the older man though he did not show it. "Our co-ordinates are set. You and I worked on them up until the time the warning bell rang in our heads and we had to go to sleep. And as soon as the bell rang for us to get up, we started checking them over—until the breakfast call came."

"Robet!" suddenly snapped the older man. The deep, careworn lines in his face became deeper and his half-smile dropped away. A pathetic, agonized expression was in his sunken eyes. He crossed the room, voicelessly laying his hand on the younger man's arm.

Robet broke away, his lips working. He laughed wildly, hand darting crazily to the collar around his neck, pulling at it, unconscious, until again his fingers realized their inability to tear it away. "I don't give a damn," he said violently. "I can't hold myself in forever, can I? I'm breaking, and I hope I break soon. When I think of how I was ten years ago. Free! No damn collar around my neck to regulate my life! No soundless bell in my head to tell me when I'm getting sleepy. No bell to tell me which god I should worship. No bell to make me a machine to work in the assembly line putting other machines together, and forgetting my soul and my being and knowing nothing

and loving nothing but work. A bell to tell me I'm a human being again, and the work day is over, and the time has come to eat. And finally a bell to tell me that three precious hours of a twenty-four-hour day are mine to do as I please—so long as I don't harbor thoughts of treason!

"And yet"—his tirade stopped in intensity, and a soft, sly smile tugged at his beardless lips—"we're not only *thinking* treason, we're actually *treasonous!*"

He slid unsteadily into a chair, unmindful of the older man's voiceless, helpless stare, and fastened his hot, bitter eyes on the Neanderthaler. "A beast," he whispered. "A dumb, neckless, bow-legged, blunt-browed stupid animal. Where did he get the brains to fix up that pouch contraption for the jewel? If he had only been a *Homo Sapiens*, from the twenty-second century, without a collar around his neck, and no bells blasting in his head, with the complete freedom of movement that would allow him to approach the palace and get inside and destroy the Machine!"

He dropped his head into his palms and bent with long, racking sobs. He was only seventeen years old, and his tragedy, and that of the older man, was worse than that of others spread over the face of this twenty-fifth-century world, for he had been in at the beginnings of a monstrous plan to free the world of an incredible slavery, and had, this very hour, seen the final demolition of the plan.

In what way had the teletemplerio failed? Certain it was, now, that time, in some crazy, warped way, was a four-dimensional spiral, the distance between each contiguous arm a matter of a hundred thousand or more years. All the exploding *temporum* in the world could not furnish the energy to send the time-jewels back along this arm of the spiral. A microscopic bit could send a jewel across the spaces between the arms, to the very beginning of time itself, but that was useless. A useless invention! It could not drag an uncollared, intelligent man from eras that knew no intelligence—

Peer Okeef, the older man, stood with bowed shoulders, his fingernails teeth on his palms, the tiny bells on the hem of his shirt jingling a mocking refrain to the shivering of his lean, spare body. He was too old to deal in tears, and yet this cataclysmic blow had had its effect on him, also. He loathed the sound of the bells on his shirt, for it was an eternal reminder of the bells that rang at stated intervals in his brain. But the wearing of the shirts had been decreed by the Elder Master of All, the Omnipotent, the Lord of Lords, the Ruler of the Earth and the Spheres of Heaven, King of the People, Saviour of the Masses, His Worship and Excellent Most High,

the Bowed-Down-To. Earth was a jangling clutter of be-collared and be-belled men, women and children, and as the Bell-Shirts were they known to the monster who sat on his throne in the Machine Palace, that monster who, with the few members of his family, did not wear the collar around his thick neck, out of all Earth's billions.

In the Machine Room was his throne, and from it came the bells that sounded in the brains of all men and placed them in their niches, powerless to loose the collars or to revolt; the whole world was a machine, and one man could operate the complex mass, gloating over the power which came from his fingers, and calling himself the Bowed-Down-To—

Peer Okeef's hand smashed with crushing force on the back of a chair.

Robet Si'on looked up, face streaked. His eyes strayed to Okeef's trembling, numbed hand.

Okeef looked at the hand stupidly. "It was nothing. I but tried to drive my thoughts away." He swung suddenly, his shirt-bells jangling, his lower lip quivering.

Robet Si'on came up behind him, grasping his arm. "I'm sorry, Peer," he blurted. "I didn't mean to start you off, too. But . . . but—" The rasp entered his voice again, and he stopped. He continued more quietly. "It isn't good to fool ourselves, Peer. For three years, now, since the day we met going off shift at the Power Building, we've schemed and figured together, and we were right to do so. Now it's just as right that we give up."

Peer drew away from him. "Give up?" he said in a tone of shock. "No." He looked at the tempter, spilling over half of their shared room. Hard lines pulled at his lips. "I won't give up. We've still got the Machine. We've still got our three hours. His Lowness doesn't know about us and our work, at least not yet. Until he does find out, we'll keep on working. There's a way, Robet! There must be a way."

Pity touched at Robet's sensitive face. "We won't give up, then," he said quietly, though his heart was a stone in his breast. "In the meantime, let's get rid of the Neanderthaler."

One hour of the three allowed had elapsed, and now they stood with their tinsel plan in shreds about them, their spirits lifted by the bitter lever of their acceptance of failure. The Neanderthaler would have to be sent back in time. It was the efficient method of ridding themselves of him, as well as a kindness they could extend. It was the warmth of the creature's body which had released the energies within the jewel which in turn drew Uggl from his world-line: geodesic disposition. The removal of the jewel would remove Uggl.

Therefore, Peer Okeef stepped in, hand extended to take the jewel which was a pulsing variable star bringing brilliant glory to Uggl's

hairy self—and Uggl, his spine betraying all his body save his arms, resisted the heartless theft with all the passion that was left to him. Three furrows of blood came in Peer Okeef's arm.

Peer cried out in pain, clapping his hand to the scratches. "The beast," he cried violently.

He reached for the neuro-gun, but Robet Si'on stopped him with a strange, sad smile.

"Let him have it, Peer. Let him remain in this time, until he takes the jewel off of his own accord. Let's take him to the Garden. It'll give us some excitement, too—"

The Garden was the shunned place of the city, of which it was the heart. For here, in this garden, in this last realm of vegetable and animal life on the North American Continent, in this teeming jungle where all tropical verdure, palms and cacti and lianas and banyan trees, throve in the artificial heat of the city; where lions, tigers, and forty-foot snakes, and termites, and kangaroos, and armadillos and all the other off-scourings of animal, insect, reptilian and bird life slunk, crawled, chattered, and cawed; here, in this garden, man did not spend his three hours, for in those hours there was life to be lived, and love to be made, and in the Garden there was danger of death.

Once it had been the Bronx Zoo; later, enlarged, and ecologically controlled, it was the International Gardens; but with the coming of the Bowed-Down-To, His Lowness, the hundred square miles was fenced off with a high, spiked, incurving fence, and snakes and beasts had long since learned there was danger without if they should gain freedom, and though it was a breeding spot for insects, their extermination in the city without was an automatic process; so that the Garden was completely detached from civilization, the primitive, self-sufficient unto itself, few people aware of the singular tumult of birth and death which went on in its humid environs.

There Uggl would be set down.

Peer Okeef and Robert Si'on now ascended the ramp to the roof, their captive wound around and again around with a blanket, so that even his arms could not tear him free. They carried his dead weight, panting, now and again running into Bell-Shirts, but these were Bell-Shirts who walked with the bells of command in their mind, and they were of another world, though they lived in Community House No. 660, for their lives, their work, their worship; their sleep, their freedom, were arranged on another routine. The Free Period of Robet Si'on and Peer Okeef never coincided with the Free Period of any other member of the House, and so, also, they had full use of the plane which stood at the far edge of the roof.

Toward this plane they now carried their burden, and deposited him in the rear cockpit. They

were breathing fast, partly from fear that, somehow, their plan should be found out, partly because of the heady pulse of excitement which did not often beat in them.

"Quickly now." Robet slid over to the far side of the fore cockpit, and Peer put himself before the controls.

With the automatic calculator, Peer precisely figured the distance to a center point of the Garden, and so set the robot controls. The motor whirled. The plane lifted, borne upward and forward along a predetermined course by the contraction of electrons toward atomic cores; for as motion, by axiom, caused contraction, so did contraction cause motion, a celebrated, practical usage of the Fitzgerald Theory.

Five miles to their right, the Machine Palace rose against the night in its glittering splendor; moonlight slanted from the ocean; and the Statue of Liberty, green and old and solemn with sadness, brought the swift smart of tears to Robet's eyes. He jerked his glance away from this mocker of his hopes.

The plane slanted down, hovering over the black, uneven oval of the Garden, and a warning buzzer indicated that Peer must now take over. He did so, and the plane, its searchlights striking downward to reveal a clearing, dropped with a smooth rush, bumped and stopped.

Five minutes later, walking timidly, and fearful of the insect sounds, and the grunt of a beast that emerged from the thicket, they deposited Uggl on the ground, and drew the blanket from him. His great jewel glowed with intolerable light, and Robet squinted his eyes.

"The beast's afraid," said Peer. "He smells danger in the bush." He hurriedly reversed the neuro-gun, and the pulsing pale-purple vibrations washed over the helpless hairy body.

Uggl twitched, the tremor of returning bodily awareness running over him visibly. Suddenly he was on his feet, with a fearsome cry. As suddenly, he had turned, bolted, and climbed a tree, and his jewel-light blazed in his savage eyes.

Peer and Robet left him there, and their plane rose again. Soon would come the sleep-bell, first warningly, and then commandingly. Robet closed his eyes, but a hot tear came sliding out.

As they came down the ramp, Robet froze.

"There's a light in our room!"

Peer was silent a moment. "So there is," he said quietly. "Come, Robet." He went ahead of Robet, his shoulders thrown back, a hard, controlled fright stretching smooth the wrinkles around his thin mouth.

When they came into the room, they saw what they expected to see: a squad of Double-Collars, resplendent in their livid purple coats, on which corruscated the emblem of the Beloved Flowers

of the Most High. Stiff and rigid they stood, their arrogant faces inwardly lifeless, for their brains were but mental reflections of the Lord of Lords.

The foremost of these, holding his neuro-gun crosswise across his swelling chest, stepped forward a stiff step. From the vibrating drum of his lungs came thunder: "Stop! Remain silent! Do not move! The Bowed-Down-To will speak to you!"

Came the bell of fright in their heads that made them tremble and close their eyes against scalding pain.

Came then the voice, terrible and crashing against auditory cells.

"We know of your deception! We know of your time-jewel! We know of your treason! We know of the Neanderthaler! Speak!"

Peer spoke.

Came the snarl, "You confess the truth! What punishment do you wish?"

Peer spoke: "We wish to be wakened from our sleep with screams in our heads. At work, we wish to be tortured with your laughter. At meals, we wish that the bells will ring unendingly, so that we will not be able to eat. We wish thus to die a slow death."

Came then tittering, piercing laughter that soon died away. Peer and Robet stood with eyes closed, faces glossy with prickling sweat, leg muscles petrified.

"Enough!" came the thunder of the squad captain's voice. They opened their eyes. They crumpled on the floor. The squad of Double-Collars, heads held stiff by their uncomprehended ignominy, marched around them and out the door.

Robet was wakened twice that night, as was Peer. The second time they looked at each other with flickering eyes.

"How did he know?" said Robet.

Peer had no answer for him. Before the hypnotic command of the Sleep-Bell could act, he looked around the lighted room. Their time-machinery was destroyed. Peer sobbed and slept.

On the robot car that swiftly followed a path back to the Community Houses, as if an intelligent being were following the twists and abrupt turns of the streets, Peer, crowded and jostled by other workers, stood near Robet. Peer was older. He had not eaten this day. While he worked there was laughter. He knew, and Robet knew, that in another three days their deaths would be preceded by howling madness.

Crescents of dark color were engraved under Robet's eyes. He looked sadly over the massed heads of standing workers toward the Garden. He was thinking of Uggl. He would have liked to be Uggl. Had Uggl snatched the time-jewel off his chest? Had the retaining vibrations ceased to wash through him? Had his body, witlessly obeying the law of conversation of energy and matter,

been snapped back to its proper world-line? He wished that he were Uggl.

But Uggl was satisfied to be Uggl. He grunted thoughtfully as he gorged himself on antelope meat, keeping a weather ear open for the *pad-pad* of a jungle beast, or the swish of a carnivorous snake. These he had seen in his day and night in the Garden. These he had escaped with ease.

From his tree after the night had passed, he had leaped onto the back of this antelope, and wrung its neck with ease.

The Garden was lush with the necessities of life. He wiped red hands on his chest, and raised the jewel to look at its flame. There was a gloom here, for the great banyans arched across the sun, and the jewel was a good advantage. He took it out of its pouch, tossing it from hand to hand, securing a singular amount of amusement from this complex trick. The sphere of brilliance began to ebb back toward the heart of the jewel. Not because of this, but because he was restless, he returned the jewel to its pouch.

Restless for what? He growled lowly. He rose on bowed legs, toes curling down into the soft, damp humus of the forest, sniffing at and classifying in a strictly scientific manner the sundry acrid, sweet and sour odors of this new land. He did not find the odor he wanted, the odor of his kind. He growled angrily. His belly was full, and he was strong again and his defeat in the fight for chieftancy of his tribe still rankled. He must find a tribe—with a weak leader. His shaggy stupid head lifted to suck in the cloying odor of that distant tribe of beings who had held him captive. But memory of purple heat-waves made him uneasy. He struck at the protuberant brow-ridges over his eyes, in deepest thought. He could outwit them if they did not have the strange weapon. He was, of course, more cunning than they.

His compulsion to do more than eat was very strong. He fashioned himself two throwing axes, with which he was quite accurate. By then dark had come, and he hunkered down in the crotch of two branches and slept. With dawn, however, he started out to conquer a tribe and become its leader.

Swinging the axes in peculiar circles and spirals, head down, muttering to himself, he paraded through the jungle, contemptuous of beasts. He had thrown an ax at a tiger. The ax stunned the tiger. Uggl then pounded the brains from the tiger.

The day passed, and at night his belly was satisfied, and the odor of the tribe was stronger. In the morning, he came to the edge of the jungle, and in the distance saw great cliffs with holes in them, and in the air, now that arching fronds

did not obscure vision, saw birds which did not flap their wings. All this was very strange, but not to be puzzled over. Beyond the grassy cleared space which began where the jungle ended was a barricade of barbed stakes, twice his height, stretching to right and left as far as his eye could follow. Beyond that, hairless beings with folds of strangely colored skin hanging on their bodies, walked or rode along on moving things. There were many of them, moving in the shadow of the cliffs. Uggl growled and was not afraid. Boldly he left the jungle, shambling. Boldly he grasped the stakes which composed the barricade, but could not break them. It did not matter. Now he would challenge the numerous beings on the broad path. Then they would know that he sought fair combat with their leader.

At first, his cries raised little commotion. The strange creatures, whose sagging skin jangled when they walked, kept on walking, never breaking their pace. It was precisely as if they did not hear him or fear him.

Soon, however, there was a rift in this monotony, and some of the creatures, those who did not seem so wholly preoccupied with something else, crossed the broad path toward him, quite slowly and fearfully. In short order, there were a dozen of them, ringed in a semicircle, jabbering and clucking to themselves, staring at him. Others joined them, but they were of such a cast that he guessed the leader whom he sought was not amongst them. He started to climb up the inner side of the fence, skillfully evading the barbed points, and soon was sitting on the stakes where they curved inward, toes curled around two stakes to keep his balance. He pounded with both fists at his chest, his jewel bouncing back and forth. He bellowed his challenge.

The crowd of beings pushed back and away, with cries of terror. But they did not go far. Instead, they were joined with others, until the whole path was clogged. Uggl was pleased with his central position. His ears picked up the sounds which a graybeard was making—a graybeard who certainly had outlived his usefulness and should long ago have been dispatched. Said this graybeard, with a strange, taut expression about his mouth, "*Homo Neanderthalensis*."

"What's that, father?"

Said the graybeard patiently to his younger questioner, "An early type of subman."

"How would you know that, father?"

Graybeard's voice brooded, yet many around were listening. "I was a scientist—ten years ago. I truly believe I was one of the first whom His Lowness asked to wear the collar. He was but a scientist himself, then. I refused him, but others tried the collar and were in his power, and they worked for him, putting the collar on others, and

so it went. Ah, well, that was long ago." Sad was the graybeard's voice. "Perhaps His Lowness himself has worked a miracle and brought the Neanderthal here to this time; perhaps the flashing jewel has something to do with it. I do not know."

And then a new factor entered the scene, and before Uggl knew the crowd surged and thinned out and was gone; and approaching from the distance came a thing with four legs which turned rapidly. In the thing was another being with a purple coat and a stiff neck. The thing was making a high, screaming noise. As the thing stopped, and the being got out, excitement sparked in Uggl's breast. The leader!

He rose on his bowed legs, swaying back and forth in his excitement, peering at the leader under his shaggy brows, to make quite sure that the leader should not find an advantage in this battle to come. Came the leader toward him, quickly on his straight legs, and there was a shiny thing in his hand. Terror paralyzed Uggl momentarily. No! This must not happen! He must not be defeated before he could fight, by a weapon which threw invisible stones. He threw an ax, hardly taking the time to aim. It struck the raised arm of the leader, and the shiny thing jumped out of his hand. This Uggl saw from where he stood on the fence.

Uggl hurled himself after the ax, screaming, for this was good tactics. Yet he did not think to scare his enemy so easily. As soon as Uggl picked up the shining thing the other had dropped, this leader ran with sounds of pain and fright. He ran toward his thing which had four turning legs.

Uggl took time out to look at the shiny weapon in his hand. It had a wart on it. Then Uggl looked up, and saw that his enemy was in his four-legged thing and the thing was starting away. Uggl lumbered forward before it could get under way. He swung aboard, and then the four-legged thing went crawling off at tremendous speed, and curled around a corner between two cliffs. Uggl hung on, terrified, his hand closing convulsively around the shining weapon. Then

he looked up and saw his enemy leaping toward him. Uggl, hardly in possession of his senses, raised his hand which was pressing on the shining thing, and he saw then that purple heat-waves were coming out in a great fan-sweep. His enemy fell, and thereafter, Uggl, knowing full well what had happened, picked him up and tossed him from the car. So fast was the car going, that Uggl did not see his enemy squash on the streets.

Uggl screamed in terror, a hurricane streaming his hair backward.

He saw a blur of beings on the broad path, some staring, others unconcerned.

The voice of the thing that was crawling at such terrible speed was a high-pitched whir, but it seemed to know where it was going, and Uggl knew it would be suicide to leap from its back. His tiny, stupid eyes were bulging, and in him was no song of victory. Him he had so easily vanquished could not be the leader of this tribe.

His heart pounded, his belly was a hard mass of terror, the wind was squeezing tears from his eyes. The purple waves still came from the shining weapon. In a madness, he pointed the purple-ness toward the source of the whirring sound of this creature, but it did not stop, it went faster, dodging other creatures of its kind, banking around bends, and hurling itself furiously down a long path at the end of which rose a milk-white building. Uggl was certain he had met his doom. He thought he was the captive of the thing on whose back he rode.

When the creature roared around the milk-white cliff, and darted toward a great, gaping cave in its side, Uggl thought the cave was its lair. His convictions changed when the creature stopped suddenly, and other beings with purple, sagging skin came running toward him.

They did not seem greatly alarmed by him, but Uggl was of them. He raised his weapon and the purpleness, still flowing, dropped these men like stones. Uggl leaped from the now-silent creature, in a flurry of panic looking for escape. From two sides men converged on him. He leaped in the opposite direction, up a broad flight of stairs, and those beings who froze at sight of



him now froze for good when they were struck with the purpleness.

Uggl went upward, because men were below him. For a moment he thought they were herding him to his doom, but then he knew that they were vainly chasing him, to keep him from something. What? The leader? Such it must be! And it was strange that the leader could not defend himself. He must be weak indeed, and, of course, this was all to the better.

Thus Uggl came upon half a dozen men who came charging from swinging slabs of stone. The purpleness leveled them. Two other men followed after, and it was then that Uggl saw that the purpleness had faded away. He felt a spasm of terror as one of the men raised his own weapon, unharmed by Uggl's weapon. At the last moment, Uggl bethought himself of his ax. He threw it and it was as good as the purpleness. He tangled with the other man and broke his neck and then went forward into this cave within a cave. There was no opposition, and he stood, streaming dirty sweat, bowed legs forked, neckless head hanging low, barrel chest sucking at air, looking under shaggy brows at the creature who sat in a chair with his back turned to Uggl. But suddenly this creature turned, and Uggl was terrified of him as he had never been terrified by a saber-tooth.

Behind him was a wall on which there were strange blinkings, and whinings, and stuttering; great curving things which had firefly glows in their visible bellies; and thongs, of varying thicknesses, looped across this wall between the glowing things. But the being who sat before them was more terrifying, for there was a thin, disdainful arrogance on this hairless broad face that made Uggl's heart constrict with fright. He had thought the leader weak! And he was not! He was far taller than Uggl and of mightier build. Uggl cravenly sought for some means of evading the issue.

"The Neanderthaler," said the being with soft intake of breath. "Perhaps I should have ordered his extinction, or at least had his jewel taken from him. Give me the jewel, beast man," and this leader then stepped forward, giant hand extended.

Uggl had his hard decision to make. Behind him, on the stairs without, were the sounds of pursuit. His pursuers were approaching fast. Before they came upon him, certainly he must vanquish their leader, and acclaim himself the leader in his place. Uggl drew his breath in and went to battle, without axes. He knew that this would be a very tough thing.

His first act in this battle was to grab his contender for the throne around the middle, and squeeze. Of course, this would leave his own face open for violent blows, but nothing serious. This Uggl did, and this his enemy did, and it was

strange the way the enemy sagged in at the middle, as if he were built of feathers at that particular spot.

Uggl's second act, fearful that a trick was being worked on him by the taller, broader, mightier being, was then to raise the other high in the air and throw him some fifteen steps against the wall. This, thought Uggl, would daze him slightly, and might give Uggl a good chance after all.

The leader, true to plan, went through the air, toward the wall which was covered with strange lights and thongs and emitted buzzing sounds.

When the leader struck, an unlooked-for thing happened. A storm broke in the cave itself, and there was a fury of lightning and cascading thunder. The lightning turned that whole side of the cave into molten ruin, and the leader charred and flickered with flame, and was stiff with twitching yet thoroughly dead muscles.

What terrible thing had happened? What god had been made angry? Uggl was prepared to flee, until the thought struck him that the anger of this god had been directed solely against the leader.

The leader was dead! Now Uggl was leader!

He blew through his nose a snort which cleared away his doubts. How easily it had been done! Now he bounded forward, toward the chair in which the charred leader, who was now smoking with an unpleasant odor, had been seated. There Uggl seated himself, and was in this eminent position when the first of his pursuers burst through the opening of the cave. Uggl roared at them commandingly, and true enough, all their energies and their angers dissipated, and they came weaving in uncertain steps into the cave, blinking their eyes, and looking stupidly at Uggl. They weaved around like stunned deer, aimlessly, plucking at the shiny things around their necks.

Suddenly one of them screamed, louder than Uggl was bellowing. This being had detached the thing from around his neck, and was showing it to the others. Suddenly they, too, were detaching the things from around their necks, and they were a screaming mass of crazy beings. They began talking amongst themselves, and making high-pitched sounds which distorted their faces. Tears ran down from their eyes.

This was all nonsense to Uggl. He rose to his bowed legs and beat upon his chest, and told them who was their chief. At this they came moving toward him fearfully, and soon were spread out before him in a clean semicircle; and from second to second they were added to by others of the creatures, who came panting into the room.

This continued for long minutes. Uggl was exultant. His stupid little eyes burned with

pride. Victory! The song beat in his pulse. What mattered that a broken ax handle had defeated him in another fight? He was chief now of a more numerous tribe! Uggl seated himself, and began to toss his wondrous jewel back and forth, from hand to hand, tossing it higher and higher, the while his worshiping audience fell into an applauding silence for his dexterity.

At the rear of the crowd there was now a commotion.

"Let us through! Out of the way! Come on, Peer!"

Uggl continued to toss the fiery jewel, though its flame was dimming, but placed his frowning eyes on the two beings who now came to the forefront of the crowd, and stood staring at him. They were the same two beasts who had previously captured him. But they were changed, changed, for there were gaunt hollows in their cheeks, and their limbs were twigs. Their faces, also, were wet.

"The Neanderthal!" choked the younger of these two. "Peer, it wasn't in vain, after all. But how? How?"

Peer wet trembling lips. "How does not matter," he whispered. "Only one thing matters." He turned. His voice was a ringing bell.

"Bell-Shirts! The Machine is destroyed! Our slavery is at an end! Off with your shirts, the symbol of our slavery!" He suited the action to the word, and his pitifully hollowed chest was exposed. His shirt went sailing away, and there was a jangling clangor as the other Bell-Shirts disrobed above the waist, a singularly symbolic act that was then transmitting itself throughout the world like electric current through a wire.

Robet wiped his streaming eyes, and turned toward the Neanderthal. He emitted a hoarse, chagrined cry.

"Grab it" he screamed.

But Uggl was beyond grabbing anything of this world. His fingers fumbled around the wondrous jewel as it came arching down, and it escaped him. It bounced twice on the floor. Uggl made a clucking sound. He stepped forward to pick it up—not fast enough. The light of the jewel faded. And thereupon, Uggl, receding jaw dropping with surprised foreknowledge of his translation, also faded, abruptly. He was gone.

Peer and Robet stood looking at the vacated throne, shoulder to shoulder. The smoke of His Lowness and his Machine rose quietly.

"King for an hour," whispered Robet. "I wonder if he knew?"

THE END.

IN TIMES TO COME

Among items coming next month is the Laboratory that should be in this issue.

And it is not because I forgot it this time; the trouble is the October issue has been on the stands only about five days as I write this, and the letters haven't had a chance to come in. I'll have to run a double Lab next time.

But the chief fiction item for next month is: "Opposites—React!" by Will Stewart, as neat a sequel to his previous contraterrene-matter stories as you could ask for. It's the story of men up against something worse than alien matter—matter whose slightest touch is instant death—and even worse than the deadly opposition of other men. They're up against the intricacies of the machines of an alien, utterly unhuman race—and the indifference those long-dead beings had for exposed power leads, accidental death traps, and the danger due to one other item: the place they had built a million years ago was studded with deadly bits of contraterrene matter!

The motivation for the story may be interesting for you to contemplate for a while, incidentally. Everybody wanted to be able to work with seetee—and to do that one thing was essential. They needed a bedplate. An absolutely solid, rigid bedplate by which a seetee mechanism could be clamped immovably to the metallic surface of a terrene asteroid. Try your ingenuity; can you figure a mechanism which will make a completely rigid support between two kinds of matter that *must not touch*? Stewart's solution in the story involves something unavailable today, but the principle involved can be applied to available materials and work practically as well.

Will Stewart, we herewith regretfully report, is no longer writing for us. This yarn will be his last F. T. D.—for the duration. At last reports he was learning to look at today's blue skies and fleecy clouds and cuss tomorrow's gray overcast. Weather observation for the Air Corps.

The Editor.

GET OUT AND GET UNDER

By L. Sprague de Camp

● —and fiddle with that machine's innards. Whether automobiles or armored war-buggies, fiddling has been going on for a long, long time. The idea of the tank—the weapon-proof vehicle for carrying armed men against the enemy—is not as old as war, only because men started fighting before they had weapons. Why, with all those millennia of effort, didn't the tank appear sooner—

Part I of Two Parts

When I was a small boy the woes of the early motorist were always good for a laugh. Innumerable cartoons appeared in *Life* and *Judge* showing a broken-down automobile from under which projected the legs of the baffled mechanic. Bernard Shaw even opened an act of his "Man and Superman" with this tableau. There were a number of popular songs on the theme, including the one whose name forms the title of this article.

The struggle of scientists, engineers and inventors to perfect the automobile parallels and is tied in with another technical effort of considerably greater age. This other problem was recognized as much as five thousand years ago; much effort and ingenuity were expended on it during the following millennia by technicians who had a pretty good idea of what they wanted, and who got reasonable encouragement from the potential users. Yet the problem has only been solved in our time. I refer to the task of creating a fighting land vehicle. By "solved" I mean the development of a machine that will so dominate the battlefield as to reduce the other arms to a subordinate position, as armored cavalry reduced infantry from the Battle of Adrianople—378—to that of Courtrai—1302.

We think of mechanized warfare as something strictly modern; and so it is, on land. But not so on water; a ship that has been fitted with an adjustable sail and/or rowlocks, which inventions go back to prehistory, is *ipso facto* a machine. True, as long as ships merely carry soldiers to where they can shoot arrows at one another or get at each other hand-to-hand—as the Egyptians and Philistines do with such verve in a picture of Rameses III's time—the machines are used in an auxiliary capacity. But the invention of ramming tactics—prior to Salamis, 480 B. C.—and the mounting of catapults on ships—Hellenistic Age—made ancient sea warfare as fully mechanized as modern land warfare.

The mechanization of aerial warfare obviously had to wait on the development of an operative flying machine, which did not get really started until the 1780s. But why this five-thousand-year fumble on land, which, to human beings, who lack fins and wings, is a friendlier element than air or water? Evidently the creation of an invincible weapon to beat the invading hordes is not always the mere fortnight's job that it is in one common type of science-fiction story.

Eight different kinds of fighting vehicles have been developed in the course of this almost geological era of technical struggle. They are so distinct, notwithstanding some anomalous or intermediate forms, that they can be conveniently treated under separate headings.

1. *The Chariot*. According to Exodus XIV, when the Lord hardened the heart of Pharaoh, "he took six hundred chosen chariots, and all the chariots of Egypt, and captains over every one of them . . . and he pursued after the children of Israel." More reliable historical evidence than the Pentateuch is an Assyrian seal of about 2000 B. C. showing a charioteer shooting an arrow at a foeman. The vehicle is drawn by a nondescript animal that might be a bull.

The chariot of the second millennium B. C. was an exiguous little cart consisting of a pole, an axle with a pair of wheels, a platform big enough for a pair of feet, and a railing at the sides and front. Having neither seat nor springs, it provided something less than Sybaritic comfort. At first chariots were pulled by oxen or asses, and in warfare were used as auxiliaries: that is, they hauled heavy-armed soldiers to the battlefield, where the men dismounted and fought on foot.

The armies of the Assyrian Empire—1300-600 B. C.—used more substantial chariots in large numbers as actual fighting vehicles. A chariot commonly carried a crew of three: driver, archer



Fig. 1. Men descended from something like a monkey—and the tank descended from something like this war chariot of Sennacherib, circa 700 B. C.—

and shield-bearer, who presumably threw up his shield and yelled "Duck!" when he saw missiles coming. Detailed accounts of battles are practically nonexistent for this age. But we may guess that against loosely organized and undisciplined infantry—which meant practically all the infantry except the Assyrian—a direct charge of chariots would be effective, not because of any actual fighting power, but by reason of their noise and the terror which the sight of onrushing horses inspires.

The Persians went the Assyrians one better by attaching scythe blades to the hubs and expanding the team from two horses to four. But they really depended on bluff, as Alexander the Great showed at Gaugamela. Darius, the King of Kings, had had the battlefield smoothed off ahead of time, and began the ball by hurling two hundred of his terrible chariots against the Macedonians. Alexander had put a line of archers and javelin men in front of his army with orders to get the horses. This they did; and found that if one kept one's head it was no great trick to dodge the scythes and pull the charioteers out of their machines.

Thereafter chariots soon went out of use for fighting in Europe and the Near East. Some of the Hellenistic kings employed them, but by Roman times chariots had been relegated to purely civilian use. By this time horses had been bred big enough to carry armored men. Being no faster than horse cavalry, tied to roads and flat ground, and unarmored, chariots really had no advantage over the equivalent in men and horses organized as cavalry, except their noise. The barbarian Britons aggravated this feature by putting little pipes on the wheels of their machines which, when the wheels spun, emitted a banshee wail.

The Romans of the Empire kept the Oriental, open-in-back chariot for racing, but adopted the northern European type of chariot for riding; open in front and with a seat in back. When the roads went to pieces with the decline of the Empire, wheeled vehicles other than peasant carts practically disappeared from Europe. Everybody

who could, rode; those who couldn't, walked or were carried in a litter on the shoulders of men or the backs of a pair of horses in tandem. Being carried about thus may sound very autocratic, but for comfort it is still a long way from a '41 limousine. The writer rode in a sedan chair once, in China, and got such a fearful bouncing that he was glad to transfer to a little gray donkey.

Four-wheeled vehicles are almost as old as two-wheeled, but they never became very practical until the invention of the pivoted front axle.

I do not know when that occurred, but it may have been in the later Middle Ages. Theretofore, four-wheelers had to be lifted or manhandled around sharp turns. Carriages with springs and glass windows came in in the later seventeenth century.

One strangely belated advocacy of chariots was furnished by Voltaire, who, in 1756, proposed that they be used against Frederick the Great's clockwork Prussian infantry. They were to be modernized, of course, by a case containing six bombs. As he wrote the Duke of Richelieu: "I know very well that it is not for me to concern myself with the most convenient method of killing people. I admit myself ridiculous: but, after all, if a monk, with some charcoal, sulphur, and saltpeter, has changed the art of war throughout this vile globe, why may not a scribbler like me render a little anonymous service?"

The Voltairean chariot got as far as a model when the war with Frederick went into desuetude. Voltaire then took to pestering Catherine the Great of Russia. But Catherine's armies crushed the Turks without benefit of chariots, and Voltaire became one more unappreciated genius.

2. *The Helepolis.* Few men would care to be first up a scaling-ladder; if nothing else happened

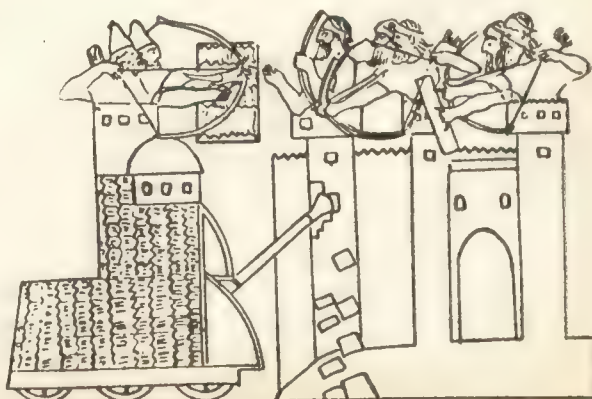


Fig. 2. —and from something like this six-wheeled helepolis of Assurnazirpal III, circa 800 B. C.

to you, the defenders would probably push the ladder over backward, in which case you could expect contusions and abrasions at the very least.

Well, why not fix the ladder to a timber framework too heavy to be pushed over? But then the structure is too heavy to move, so you put wheels under it. Then board up the sides to keep out missiles. Hang untanned hides over the outside to keep your machine from being fired. Leave a hole in the front side, first story, for the business end of a battering-ram, and you have one of the standard instruments of siegecraft for two thousand years. It has been called various things—siege-tower, belfry—but I think the Greek name, *helepolis*—city-taker—the least ambiguous.

The Assyrians, the Nazis of their day, thought of that one. See the cut of a *helepolis* of Assurnazirpal III, about 870 B. C. This is the amiable monarch who set up a monument with an inscription beginning:

I am the great and glorious Ashur-nasir-habal, King of Assyria! In the beginning of my reign in my first campaign I assembled my chariots and armies and went to the land of Narri. I carried off their spoil in abundance like young sheep; I piled their corpses like rubbish on the mountains; their cities I overthrew, demolished, and burned with fire. I passed through land near the town of Khulun; I slew two hundred sixty of their warriors with the sword; I arranged their severed heads in heaps. I flayed Bubu the son of Bubua in the city of Arbela; I stretched his skin in contempt upon the wall—

And so on, gorier and gorier, for three long columns. Another picture shows a number of *helepoles* attacking a town; instead of a ram, each has a bore—a kind of spear-drill, probably as effective as a ram against those dried-mud walls. The defenders shower the machines with torches, and in each tower a fireman is busy pouring water on the burning places. A piece of ornamental bronze work from the gates of Shalmaneser III shows a six-wheeled car about the size of an automobile with archers in the body and a ram schnozzle at the front end. The machine is evidently about to be pushed at full speed against the doors of the besieged city.

After the fall of Assyria the use of *helepoles* gradually spread to the Western world; the machines were enlarged till they towered eighty or ninety feet, but otherwise were improved in detail only. The tower which Demetrios Poliorketes plated with iron on its front and sides has been described in these pages, as has its history, ending helplessly stuck in a field which the crafty Rhodians had mined and flooded. Later in his career Demetrios besieged Thebes in Greece and built another *helepolis*, which moved at the extraordinary speed of a quarter mile in two months—an average of one foot per hour. Demetrios took the city after a long and costly siege.

This incident emphasizes that fact that the *helepolis* could be considered a vehicle by courtesy only, so limited were its powers of movement. In one rare case *helepoles* were used as real fighting vehicles: The siege of Moyta by Dionysius of Syracuse in 398 B. C. Moyta was a Phoenician city on a small island off the coast of Sicily. Dionysius drove off the Carthaginian fleet with his newly invented catapults and built a causeway out to the island. With terrific exertions his army broke down the wall, but the Motyans, who lived in six-story apartment houses, defended their city house by house. So the *helepoles* were wheeled into the city and run along the streets, the soldiers crossing on planks from the tops of the towers to the houses.

At some stage during these centuries, the loose planks which Dionysius' men used as gangways were replaced by a permanent drawbridge mounted on the top story of the *helepolis*; while it was drawn up it served as a shield, protecting the men who had assembled on the top of the tower. At the siege of Jerusalem in 70, General—later Emperor—Titus used an iron-plated *helepolis* like that of Demetrios Poliorketes.

Other wheeled siege-engines consisted of movable sheds housing mining parties, battering-rams, et cetera, which machines were known by a variety of names, such as cats, tortoises, et cetera. One of the biggest medieval "cats" comprised a wheeled penthouse sixty feet long and twenty feet high, armored with hides packed with seaweed or damp clay. It housed a ram one hundred twenty feet long, which was drawn back by a winch and released by a trigger. When the cat was close under the walls it was moved from within by hand-spiking the wheels around.

Pre-gunpowder siegecraft reached its acme during the Hellenistic Age. Thereafter there were hardly any improvements until the end of the Middle Ages; in fact the art declined in some respects. Europeans forgot how to make catapults operated by torsion skeins. These machines had to be built just so, or the skeins would go slack, or would break, or the throwing-arm would snap off, or the machine would refuse to be cocked, et cetera. A few decades ago an Englishman undertook to make catapults on the Classical model, and encountered all these difficulties. The making of torsion catapults is one of the few authentic "lost arts," though no doubt we could rediscover it if it were worth the trouble and expense to do so.

Lacking torsion catapults, medieval Europeans invented a substitute: the trebuchet, or counterweight catapult. This was an asymmetrical seesaw with the short arm weighted and the long arm ending in a sling for receiving the missile. The trebuchet was even slower and less mobile

than the torsion catapults had been, but it had the advantage that it could be built in much greater sizes. With a big trebuchet, when the besieged sent out a herald with terms which the besieger did not find satisfactory, the latter could have the unfortunate messenger trussed up and tossed back into the city instead of sending just his head as had been the custom. It was also possible to throw corpses, dead horses, and barrels of sewage into the city in the hope of starting a plague.

The early medieval architects were in the habit of erecting a wooden stockade on an earthen mound and calling it a castle. But the Crusaders who visited Constantinople took good note of its vast stone fortifications, and on their return introduced a revolution in Western castle building. The result was that for two or three centuries the defensive side of warfare had a great advantage over the offensive, as it had in the early twentieth century between the perfection of the machine gun and the development of the tank. Unless taken by surprise or treachery, a fortified town or castle could nearly always hold out, despite the trebuchets and helepoles, until the besiegers ran out of food or their enlistments expired. The development of cannon redressed the balance, as the Turks showed when they took Constantinople in 1453; made it much easier to knock down a wall than to bore under or climb over it.

Lacking cannon, a general still might build a trebuchet *faute de mieux*, as Hernán Cortés did when he attacked Mexico City in 1521, to the amazement of friend and foe alike. But Cortés was not a professional catapult engineer, as was shown the first time the trebuchet was fired. The stone flew straight up in the air, fell back onto

the catapult and smashed the machine into tooth-picks.

3. The War Elephant. Strictly speaking, an elephant is not a vehicle, but these animals have been used in almost exactly the same ways as the other instruments described herein. Besides, elephant stories are inherently entertaining.

When Alexander the Great invaded the Punjab in 327 B. C., the brave and majestic Paurava Raja, or Poros to use the Greek corruption, called out his army, which comprised mediocre foot archers, good cavalry, useless chariots and two hundred elephants. Nobody knows just how many centuries previously elephants were used for war, because the Hindus of all civilized peoples have been the worst historians. Each elephant carried, besides a mahout or driver, a howdah containing three or four archers or javelin men. Poros deployed in the standard formation of his time and country: infantry in the center, elephants in a line or lines at one-hundred-foot intervals in front of the infantry, and cavalry on the wings. The theory was that attacks on the center would be held up by the elephants and the arrow fire of the infantry behind them, while the cavalry charged in on the flanks and cleaned up.

Alexander threw the full weight of his cavalry—Macedonian lancers and Scythian horse archers—against Poros' left wing. Poros shifted his elephants to his left to help out his horsemen. The sight and smell of the elephants sent Alexander's horses off snorting and bucking, but now the Macedonian infantry attacked the elephants in the flank with their pikes. At first the infantry tried to take on the elephants in close order, and were dreadfully trampled. When they opened out, either on their own or at the suggestion of Alex-



Fig. 3. Many-times-great-granddaddy of the light tank—a six-wheeled battering-ram of Shalmaneser III at the siege of Dabigu, 858 B. C., as shown on a war-news "bulletin board" of the time. Propaganda—notice the diminutive defenders—was cruder in those days.

ander's Indian officers, they did better. Some of the elephants were wounded and stampeded back through their own troops, revealing the fatal weakness of this kind of fighting vehicle—a strong sense of self-preservation.

The fight lasted for hours; Poros led a last charge of elephants in person. From his tall elephant the towering rajah hurled javelins with devastating force and accuracy. Not until he was wounded and his whole army was in flight did Poros leave the field. Alexander sent a messenger after him and persuaded Poros to give himself up. Alexander made friends with Poros and, when he departed for his campaign in Sindh, left the ex-rajah as civil governor of his former kingdom and then some.

When Alexander returned west he sent Krateros by the inland route with a convoy of elephants and entered Babylon on the back of one. When Alexander died in 323, Perdikkas, the regent, got the elephants and promptly used them to suppress a mutiny in the army. Three hundred mutineers were trampled and never mutinied again.

When the first of the Wars of the Diadochi broke out, Perdikkas took the elephants to Egypt to fight Ptolemy at Fort Camels—*Kamêlôn teichos*—which commanded a crossing of the Nile and had a brick wall surrounded by a wooden palisade. Perdikkas put his elephants to work demolishing these obstacles. *Crash!* Down went the palisade, and Ptolemy's soldiers scrambled back inside the brick wall. *Crash!* Down came a piece of that, too.

The Egypto-Macedonians gave themselves up for lost. So they would have been had not Ptolemy himself speared the first elephant as it climbed through the gap. The elephant fled with indignant squeals; the sound panicked the other elephants, who trampled some of Perdikkas' men and scattered the rest over the sands of Egypt.

The Hellenistic kings went to great trouble and expense to accumulate elephants. Indian mahouts were imported to teach the proper method of handling the beasts. The commander of a Hellenistic elephant corps was called the Elephantarch, and the drivers were called Indians—whether or not they came from India—or elephantogues. They hung the beasts with red drapes to rouse their fighting spirit—not knowing that elephants are color-blind—and painted their heads and ears gaudy colors to frighten the enemy.

The results hardly demonstrate that the effort was worth while. The elephants won a few battles, mostly against troops who had never faced them, or barbarians like the Gauls. But there are far more cases on record where these temperamental tanks helped beat their own side by stampeding in a retrograde direction.

For example, when Polysperchon besieged Megalopolis, he built a causeway to enable his

sixty-five elephants to walk up and through a breach in the wall. The Megalopolitans were in despair until Damides, one of Alexander's veterans, suggested carpeting the breach with caltrops made of iron spikes set in planks. When the elephants stepped on the spikes, some of the poor animals fell and were killed by the defenders; others fled, limping, screaming, and killing every soldier they could lay trunk on. That finished the siege.

When war broke out between Eumenes, who had been Alexander's secretary, and General Antigonos Monophthalmos, the former sent word to Eudemos, whom Alexander had left in the Punjab as military governor: join me and *for Zeus' sake bring some elephants!* The principal elephant owner in that part of the world was still our old friend Poros. Eudemos murdered Poros and stole his elephants.

The first Antigonos-Eumenes battle, at Gabiane in western Iran, was a draw. The antagonists then separated, and Eumenes dispersed his army to forage. Crafty old Antigonos tried by a forced march across a supposedly impassable desert to catch his enemy napping. Eumenes, also a first-class general, heard of this and quickly collected his army. The elephants, with an escort of four hundred horsemen, were the last to arrive.

Antigonos, learning of this, sent a large force to capture the proboscideans. These troops drove off Eumenes' cavalry. But the elephantarch coolly formed his beasts in a hollow square with their accompanying baggage animals in the middle, and continued on his way under a shower of missiles. The elephant corps would probably have been captured even so, except that Eumenes, guessing what Antigonos might be up to, sent out a still larger detachment which rescued the elephants in the nick of time.

The next battle, at Gandamarta, was also indecisive. But Eumenes' troops mutinied and turned their commander over to Antigonos, who with Hellenistic practicality had him strangled forthwith.

When another successor, Seleukos, made himself king of Iraq and Iran, he discovered that "his" Punjab had become part of a vast empire stretching across northern India, ruled by an able Punjab adventurer named Chandragupta Maurya. Seleukos probably thought better of picking a fight with an emperor who could muster "nine thousand elephants"—if you believe the ancient authorities—he ceded his eastern provinces and his daughter to Chandragupta, getting in return money and five hundred elephants wherewith to fight Antigonos Monophthalmos.

The battle occurred at Ipsos, in western Anatolia. Seleukos arrived with four hundred eighty elephants to Antigonos' seventy-five. The wits of Antigonos' court had been calling Seleukos "the

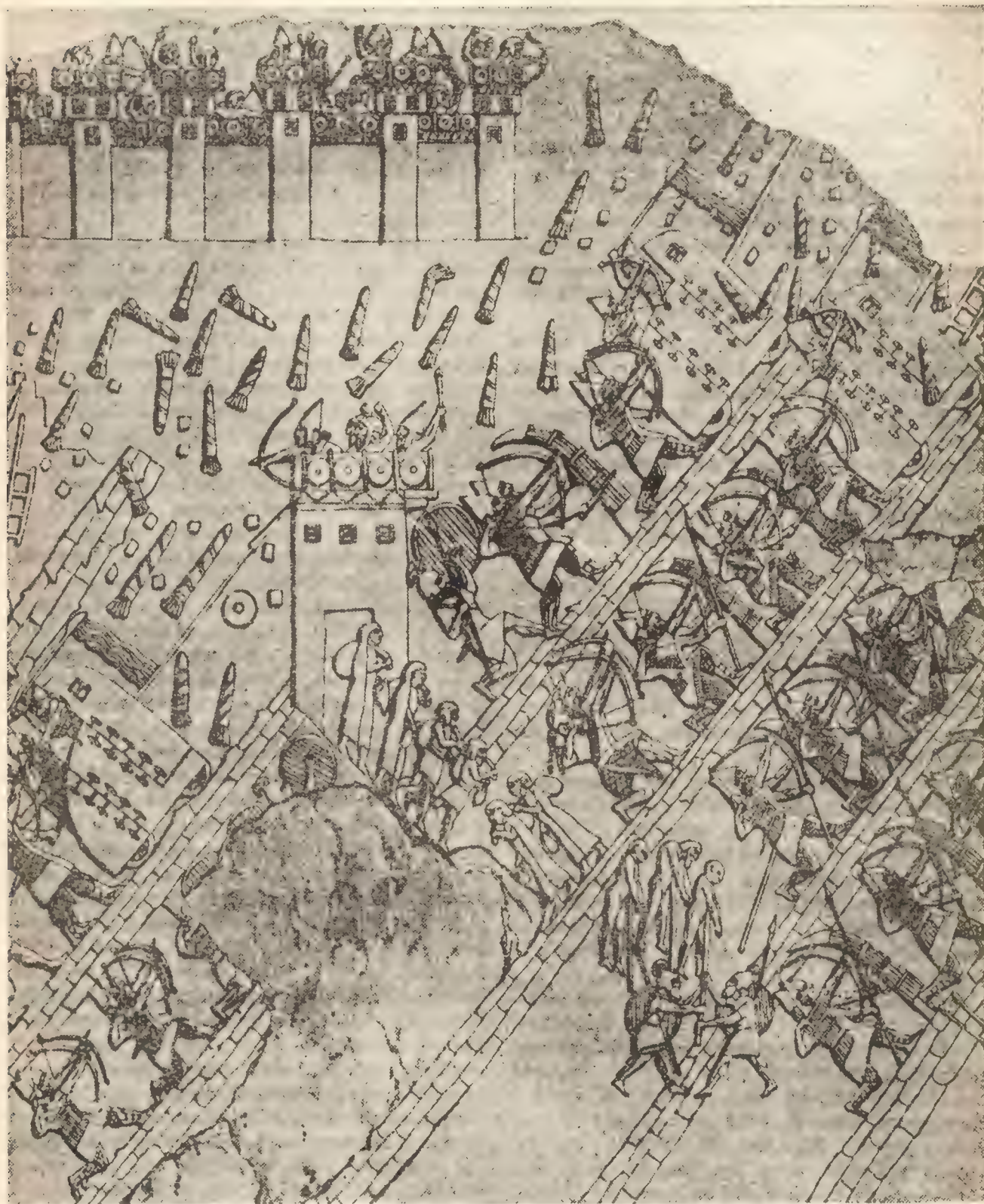


Fig. 4. Assyrian siegecraft; the Siege of Lachish by Sennacherib. A number of Assyrian columns are attacking the city, each headed by a four-wheeled helepolis. Each helepolis carries an archer, a fireman who is ladling water onto the burning spots, and a man inside who attacks a wall with a bore. Behind each helepolis is a column of archers and pikemen, protected by pavises—large wicker shields. In the tower in the center are one archer, two defenders throwing stones, and one slinger whirling his sling. Other defenders shower the helepoles with blazing torches. From the base of the tower a group of refugees is leaving the city. Below and to the right of these, Assyrian soldiers are impaling prisoners on stakes.

Great Elephantarch," but after this battle they changed their minds. For once the elephants were properly handled and were numerous enough to be effective.

Antigonos' left wing, under his son Demetrios Poliorketes, swept away Seleukos' weak right wing but pressed the pursuit too far. Seleukos moved his elephants to form a huge fence blocking off Demetrios' return. It was probably unnecessary to put the elephants in a solid rank: if a horse will not approach an elephant closer than, say, fifty feet, a row of elephants one hundred feet apart will stop any horse. Antigonos was overwhelmed and slain, crying vainly: "Demetrios will save me!"

While the Seleucid empire lasted it had a monopoly of Indian elephants, allowing only as many to reach the West as Seleukos' descendants saw fit. To break the monopoly, the Ptolemies undertook the capture and training of African elephants from Ethiopia. They established a special elephant-catching department in the army which set up stations on the shore of the Red Sea and built huge barges for transporting the beasts.

One of Antigonos' commanders at Ipsos was an exiled Epeiroi prince named Pyrrhos. When this young man returned to Epeiros and became king he got infatuated with the idea of becoming a second Alexander, collected twenty elephants and invaded Italy. His elephants steamrolled the first Roman army at Herakleia. The Romans had never even heard of elephants and took them for gigantic oxen.

While raising another army, the Romans sent an ambassador named Fabricius to Pyrrhos, who first tried unsuccessfully to bribe him. Then he undertook to scare him by concealing an elephant in the ambassador's tent. At the right moment the curtain in front of the elephant dropped, and the animal gave a spine-chilling toot, like twenty men blowing bugles full of spit. But Fabricius just sneered.

They fought again at Asculum. The Romans had prepared their own version of the tank—chariots with huge projecting bowsprits, manned by soldiers with torches. The elephants detoured the chariots without difficulty and got amongst the infantry, where they did great damage till they were repelled. This was the original "Pyrrhic victory"; Pyrrhos won, but lost his best men. He did briefly invade Sicily and gave the Carthaginians their first sight of trained elephants, which the seagoing Semites took very much to heart.

The Carthaginians began to capture and train the elephants that were then common in Morocco, and perhaps others from Libya. A region in Libya near Lake Moeris that is now dry as a bone may have then been damp enough to support proboscideans. Many ancient writers speak of African elephants being smaller than Indian, which is not

in general true. But the writers may have been referring to the now extinct North African subspecies, which may actually have been smaller.

At the Battle of Tunis in the First Punic War, the Carthaginians' elephants completely ruined a Roman army, whose general, Regulus, had the mistaken idea that the proper way to receive an elephant charge was to present a solid front. But after that the elephants never helped the Carthaginians much.

The great Hannibal Barca took elephants on his famous march from Spain to Italy at the start of the Second Punic War. He ferried thirty-six of them across the Rhone on a huge raft. The elephants became nervous and began lunging about; some fell into the river. The elephants, being excellent swimmers, were all saved, but some of their elephantogues were not so lucky. The elephants nearly starved crossing the Alps, and all but one died of the intense cold following the Battle of Trebia. Later Hannibal got more from Carthage, but his two greatest victories, Lake Trasimene and Cannae, were won without them, and they contributed to most of the Punic defeats.

When the Romans stampeded the elephants at the Meturus, the Carthaginian general, Hannibal's brother Hasdrubal, had equipped each driver with a mallet and a chisel. The driver now placed the chisel on the back of the elephant's neck and hit it with the mallet. Down went the elephants, dead; but Hasdrubal's ingenuity did not save him from losing the battle and his life.

By the time Publius Cornelius Scipio faced Hannibal Barca at Zama, and Hannibal led off with a charge of elephants, the Romans knew what to do. They yelled, blew trumpets, clashed their weapons and showered the elephants with missiles. To minimize the damage done by those elephants that did get home, the maniples of the second row of the Roman checkerboard moved directly behind those of the first, leaving clear lanes for the elephants, who were glad enough to single-foot through the lanes, out the rear, and away from the accursed battle. On the Roman left the horses of the Italian cavalry became unmanageable at the approach of the elephants. Scipio with great presence of mind ordered his men to dismount and attack the elephants on foot. When the elephants were in retreat the cavalry remounted and drove off the disordered Carthaginians.

So ended the large-scale use of elephants west of Greece. The Hellenistic kingdoms continued to employ them until gobbled up by Rome. At the Battle of Raphia—described in a previous article—Indian elephants beat African, but no inferences can be drawn because the Indians were the more numerous.

The Romans never showed much enthusiasm

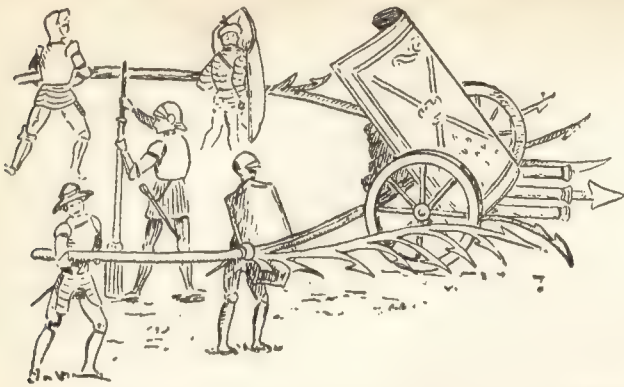


Fig. 5. With the medieval invention of guns ribaulds such as this—

for elephants, though the tributary Numidian—Moorish—kings sometimes sent them elephants as gifts whether they wanted them or not. The Romans had some of these in their war against Perseus, the last king of Macedon. Perseus, to accustom his horses to the sight and sound of the animals, had his carpenters build dummy elephants, in which were concealed men who moved the legs and blew trumpets.

If the Romans were cool toward using elephants themselves, they felt differently about their use by others. They forced the Republic of Carthage, Philip V of Macedon, and Antiochos III of Syria to forswear elephants by treaty. When they heard that one of the last Seleucids, Antiochos Eupator, was accumulating elephants and warships contrary to the treaty, they ordered him to kill his elephants and burn his ships forthwith, *or else*. The Romans were now so strong that the king had no choice. The pathetic sight of the slaughtered elephants so enraged one of Antiochos' officers that he assassinated the head of the Roman embassy.

Thereafter the use of war elephants receded to the East. The Sassanid kings of Iran revived their use in that land and armored their beasts with iron, probably in the form of scale or chain mail, which was just coming into use. The record is, as previously, one of rare success and frequent failure. When the great Khusrau Anushirvan made his last invasion of the Byzantine Empire, his personal riding elephant saved his life on the retreat by swimming the Euphrates with him. The Byzantines captured twenty-four of his tanks and took them to Constantinople.

At this time a nation of Turkish nomads, the Avars, had conquered a great empire in central Europe. Their Khagan, Baian by name, wrote the Byzantine emperor Maurice asking for the gift of an elephant. Maurice complied. But the redoubtable Baian took one look at the monster and, in great alarm, ordered it returned at once to the donor.

AST—6N

Beginning with Mahmud of Ghazna in 1001, a succession of Turko-Persian Moslem adventurers swooped into India to raise hell and sometimes to found empires. They found the rajahs fighting much as Poros had fought Alexander, except that chariots had been abandoned. The invaders invariably began by beating the elephants in battle and then adopting them into their own armies. The Timurid or "Mogul" empire followed the usual course.

The war elephants of the Mogul Emperor Humayun and his successors were not only armored; they carried swords in their trunks and had long blades fastened to their tusks. King Jame I's ambassador, Sir Thomas Roe, wrote in 1616: "Hee—the Emperor Jahangir—passed all the way betweene a guard of eliphants, having every one a turred on his back; on the fower corners fower banners of yellow taffety; right before, a sling—small cannon—mounted, that carried a bullett as bigg as a great tennis ball; the gunner behind yt; in number about 300."

Information is lacking on the effectiveness of the elephants' swords and guns. Though at the battle of Khajuha in 1659, Shah Shuja attacked the Emperor Aurangzib's army with three elephants swinging huge chains. These wrought fearful havoc, though not enough to win the battle.

Whatever usefulness war elephants had dwindled with the coming of cannon. This is shown by the Battle of Karnal in 1739. Though the Indians fought bravely, the Persians knocked over the Imperial officers' elephants with cannon balls and reduced the Indian army to a disorganized mob.

When Kublai Khan sent an embassy to the court of a pompous and eccentric Burmese king named Narathihapate Siritribhavanatityapavaradhammaraja to demand the usual tribute, the king had the embassy all executed because they declined to remove their shoes as often as was demanded by Burmese court etiquette. But the king's judgment was as bad as his name was long, for the Mongol emperor at once sent a few divisions of Turkish cavalry into the Shan states to collect both tribute and king.

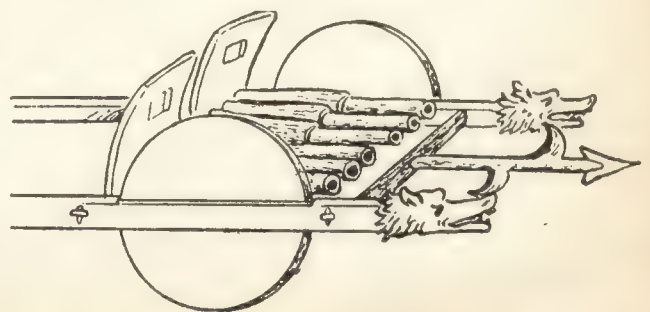


Fig. 6. —and this, from a manuscript of the 16th Century, came in.

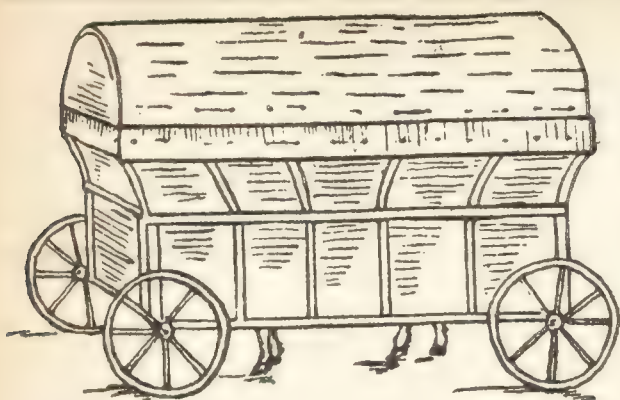


Fig. 7. Scottish "tank" of 1456, as it looked in action, with its horsepower properly protected—

The Burmese met them at Ngasaunggyan in 1277 with a great force of elephants. The proboscideans at first stampeded the Khan's horses. But then the Turks had the same idea that Scipio had conceived long before: they dismounted, drove off the elephants with an attack on foot, remounted and cleaned up the rest of the Burmese army.

About 1765 the Manchus sent huge but ill-equipped Chinese armies swarming into Burma. The Burmese put up a wonderful fight, making great use of light cannon mounted on elephants, and after four years cleared the last Chinese out. This was practically the last stand of the battle elephant. The Chinese had had few guns, and the elephants, operating in dense forest, had had everything in their favor. Elephants were thereafter relegated to pack-animal duty, as readers of Kipling will recall, and have now been crowded out of even that function by the gasoline engine.

But weapons take an interminable time to go completely out of use. World War II has seen the

use of the "obsolete" sword, spear, sailing ship, and bow-and-arrow. During the brief war between French Indo-China and Thailand in December, 1940, the United Press reported: On December 4th, a force of twenty-four French and Indo-Chinese guerrillas attacked Chantaburi, and retreated after a brief skirmish with Thaiish forces. The raiders were mounted on two elephants, three horses and a bicycle!

4. *The Ribauld.* In the fourteenth century, when European generals were wondering how to employ this devilish new weapon, gunpowder, a contraption known as the ribauld or ribauldquin was developed and built in considerable numbers. The inventive Scotch seem to have been the chief ribauld enthusiasts. In its original form it was a kind of wheelbarrow mounting a heavy cross-bow, and with projecting spikes and blades to keep off the hostile horse.

It was thus a combination of the catapult and the palisade or portable archers' defense. The medieval Bowman commonly carried a couple of sharpened stakes; when the company took its battle station the stakes were driven slantwise into the ground in front of it like a row of raised pikes to repel cavalry charges. There were more elaborate forms: back in 312 B. C., Ptolemy I beat the elephants of Demetrios Poliorketes at Gaza by putting missile troops behind a line of such stakes linked by chains. Sometimes the stakes were fastened at right angles to a pole, the resulting *cheveaux-de-frise* forming a very fair anticipation of barbed wire.

The ribaulds crossbow was soon replaced by one or more small cannon. The main use of the device was to command the gates of a besieged town. Information on the actual use of ribaulds is practically nil; we know that Edward III ordered one hundred of them for his invasion of France in 1345. They do not seem to have been used at Crécy. But when the English besieged Calais the next year and Philip of Valois showed up with a relieving army, Edward threw up a circumvallation and ranged his ribaulds around the wall. The sight so awed the French that they did not even attempt to relieve the town.

The ribauld's spikes were soon abandoned and the number of guns per vehicle greatly increased, the idea being to get a machine-gun effect by firing them in quick succession. Such a machine was good for only one discharge, because by the time the guns were all reloaded the battle would be over. In 1387 the Lord of Verona, Antonio della Scala, built three monster ribaulds twenty feet high, each with one hundred forty-four guns. He took them to the Battle of Castagnaro, but the ribaulds were so slow that the hostile army under Sir John Hawkwood—one of the few condottieri who took his fighting seriously—had cap-

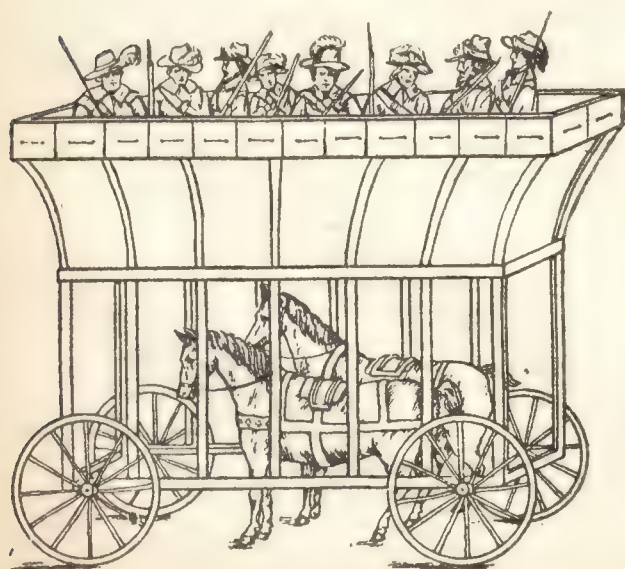


Fig. 8. —and with walls removed to show the internal arrangements.

tured Tony's whole army before they arrived. Then he captured the ribaulds, too.

5. *The Battle Car.* During the fifteenth century the ribauld was made obsolete by the development of the hand gun, but that did not stop the fighting-vehicle inventors. Several military writers of the time produced designs for proposed battle cars, armored and loopholed. Some were to be pushed by man power; others had space for draft animals inside. Leonardo da Vinci designed a turtle-shaped car to be operated from within by cranks; Valturio in 1472 conceived a car driven by wind-mills geared to the wheels. Ramelli, the chief engineer of Henri III, designed an amphibian car with a paddle wheel.

Again the actual building of these inventions seems to have been done by the Scots, who produced a formidable array of machines like the one here illustrated. Again battle reports are lacking. But looking at the things from our present knowledge of the power required to move vehicles, we can easily imagine what happened: the cars got stuck or upset the first time they hit a piece of rough ground, and the disappointed inventors departed, protesting that only a slight improvement was needed to make the machines practical.

The nearest thing to the successful use of battle cars was in the war of the Bohemian general Zizka¹ against the forces of the Holy Roman Emperor, Sigismund of Luxembourg, 1420-1434.

The use of wagons as a defense goes back to the Hellenic Age. In Zizka's time the Russians were using an improved method of wagon defense against the Tartars: a Russian army was accompanied by a *gulaigorod* or moving town, consisting of a train of wagons loaded with pavises, big infantry shields on wheels. When the Tartars, who had lost most of the military acumen they had possessed in Genghis Khan's time, attacked, the Russians set the pavises in a circle and shot through the loopholes at the nomads until the latter got discouraged.

At the start of the Hussite war, Zizka found himself with a rabble of Czech peasants armed with agricultural implements to oppose the armored chivalry of the Empire. Sigismund had infantry, too, but that was of the same quality as Zizka's.

The doughty Bohemian stayed on the defensive

until he had given his men some sort of military discipline. Then he sallied out and formed a series of wagon-laagers in the path of the Imperial armies. The wagons were parked in a hollow square; an opening was left at each side, but guarded by stakes linked by chains.

The German knights thundered up to the barrier with sword and lance, but since their horses could not climb over the wagons, they could do nothing but ride round and round while the Czechs shot at them with the few bows and hand guns they had. The German infantry, seeing their feudal lords unable to make head, decided they weren't having any, thank you, and presently the Imperial host was in disorderly retreat. Whereupon the stakes were removed from the gaps in the wagon lines and the Czechs rushed out to turn the retreat into a *sauve-qui-peu*. Zizka ordered his men particularly to grab any hand guns they saw, with the result that in a few years he had the most powerful hand-gun corps in Europe, and the Germans would run at the mere sight of his terrible wagons.

But Zizka's success was the result of special conditions—every war is a special condition, but this one was more so—and was not repeated. An immobile square of wagons was helpless against a battery of cannon. So the problem was not yet solved by any means. The inventors of muscle-powered vehicles had gone about as far as they could and always came up against a blank wall. They had to get a combination of fire power, protection, and mobility, and with muscle power this could simply not be had. The elephant, for instance, had fair fire power and mobility, but could not be protected well enough. The battle car might have plenty of fire power and armor, but then it could not be moved and became merely an inferior kind of blockhouse.

If the Earth's gravity had been less, the combination might have been feasible—unless men and animals had evolved with proportionately weaker muscles. Or if it had been greater the muscles might have had the necessary oomph—except that vehicles would have been that much heavier. Or if the Earth had been built with a smooth, level, hard surface everywhere—

Things being as they are, the fighting vehicle had to await the invention of machine power. In the next installment we shall see how that worked out.

TO BE CONCLUDED.

¹ Pronounced zhish-kah.



TO FOLLOW KNOWLEDGE

By Frank Belknap Long

● A completely strange story of a machine designed to travel time and universes—and of the theory that, in an infinity of worlds, somewhere every event must have its exact duplicate, and its near-duplicate, even a near-duplicate that was luckier, happier, than the original—

Illustrated by Schneeman

*"To follow knowledge like a sinking star,
Beyond the utmost bounds of human thought."*

Tennyson

Cummings put his hand out through the port-hole and dug his fingers into the river.

"Oh, my aunt!" he mouthed.

Ralph Temple, rolling over in his bunk, blinked drowsily. "Wassamatta, Ned?"

"Nothing much. River's getting harder, that's all. River's all scrooched up."

Temple sat up straight. Although they were in almost total darkness he could see the shadowy outlines of his companion's head and shoulders. He could also hear the paddle wheels turning, and smell the dank, high walls of the rain forest.

"Turn on the niagara lamp, and take a look," Cummings urged. "I must be going nuts!"

Temple got swayingly to his feet. He was beginning to remember now. It was coming back.

"How would you like to have twenty toes instead of ten?" Morrison had asked. "How would you like to turn around and meet yourself—yesterday?"

Up above a dull, spreading radiance was coming into sight. It seemed to flow down toward him over something that looked a little like the keyboard of a piano which someone had designed without calipers to avoid offending a forty-foot giant.

He couldn't stand not knowing. Clutching his hat firmly, he climbed up toward the light.

"Holy smokes!" he gasped.

He had been merely stunned at first, down in the thick blackness, but up here under the cold, brittle stars a man had either to cry out or go mad.

He cried out. Into the vast, stellar night went his little voice and the knobby legs of Pegasus seemed to lengthen. But, of course, that was nonsense. The constellations couldn't change. Not while he—

His lips tightened, and all the blood drained

from his face. The night sky had begun to lurch. Pegasus was growing horns, and there was a frothy cluster of new stars surrounding the Pleiades.

Someone was calling to him from the thick blackness. "Ralph, where are you? Come back at once."

He crawled back on his hands and knees. He was conscious as he straightened of a dozen eyes trained relentlessly upon him. He stood rigid in the darkness, his spine a column of ice, his fists knotted up tight.

It seemed ages before a match flared and his darling came into view. Her coppery hair, unbound and falling like a veil before her face, failed utterly to cloak the fury in her gaze.

"Well, you did it," she rasped, staring at him as though he were some loathsome insect that ought to be crushed.

"Joan, I—"

"I thought the machine was unfinished," she flung at him.

"I know. I thought so myself."

He looked around at the seated girls. Giggling, they had trooped in to look at the bare, dry bones of an untested guess.

Well, the guess was going places now. It was traveling at full throttle, and the morning papers would have a sensational story to report.

His stomach felt tight and hollow and he was sweating at every pore. "I'm sorry," he choked.

"You ought to be, Ralph Temple," the coppery-haired girl flared. "One minute we are in the Museum of Industrial Arts and Sciences. The next we are in darkness Heaven knows where."

"Where is Ned?" Temple asked hoarsely. "I was just now talking to him."

"Ned says he's in another place. A sort of cabin or stateroom, with water flowing past outside the portholes. Only it isn't water. It's thick, like glue."



Temple felt around beneath him until he located a chair. He sat down and swabbed a perspiring brow.

All right, he had played Pandora. But plenty of people of both sexes had done that since the Faradays and the Morrisons had started inventing things back in the dim Pleistocene. Plenty of people had cut their thumbs on experimental arrowheads, and poked around in kitchen middens, and lifted the lid on hives of mechanical bees.

It wasn't a crime to play Pandora. But building a time machine, and pretending it was just a guess

in up-to-the-minute plastics and mysterious curves was . . . was—

Well, he hoped they'd arrest Morrison and send him to prison for life. It was all coming back now. Morrison had persuaded the directors of the Museum of Industrial Arts and Sciences that his big, unfinished question mark of a machine would pack them in at the Science of Tomorrow Exhibit.

Morrison was never so persuasive as when he stressed the value of publicity to men as "impractical" as himself. It hadn't taken him more

than five minutes to convince the directors that mathematical physicists were white-haired boys to the Fourth Estate, and could pull Sunday supplement write-ups out of their hats.

Bitterly Temple recalled that he, Morrison, and Ned were supposed to be buddies. They had gone through military school and college together and shared youth's long dream of incredible things to come. Then Morrison had strayed off toward a Ph. D., Ned had taken up engineering, and he, Ralph Temple, had inherited two million dollars.

It made a difference. You could not expect a scholarly mathematical physicist, an engineer bronzed by sun and wind in the tropics, and a Park Avenue playboy to remain close buddies.

You could not expect it, but, hell—it had happened. To Ned and himself had come passes to the Museum of Industrial Arts and Sciences accompanied by chummy little notes from Morrison.

Ned

Dear :

Ralph

My machine goes on exhibition tomorrow. I'm hoping the public will be sufficiently impressed to contribute a cool million. There's a lad named Ralph Temple could start the ball rolling, but first he'll have to come and see.

All best, as always,

Morri.

Outside the Science of Tomorrow Exhibit, Morrison had greeted them effusively, and opened up with: "Ralph, Joan—Ned, old fellow. Say, this is all right."

"You're telling me," Ned had chuckled. "Ralph is letting me hold Joan's hand in the fourth dimension. Did you notice?"

"No, but you may be doing that in sober actuality one of these days. How would you like to travel in the direction of motion with the speed of light? How would you like to turn around and meet yourself—yesterday?"

"What would Ralph have to do?" Joan had asked.

Temple had turned away, and was frowning heavily, but Ned appeared to be enjoying himself hugely.

He winked at Temple's girl. "He'd have to be double-jointed in the fourth dimension. But he wasn't asking Ralph. He was asking me."

Morrison grinned. "I was asking both of you."

"Well, to meet himself yesterday a man would either have to be double-jointed in the fourth dimension, or travel completely around the Universe of Stars. Isn't that so?"

Morrison shook his head. "No, not at all. When my machine is completed he would simply have to depress a little knob, and—*pouf!*"

"You mean he'd vanish?" Joan asked.

"From Earth, yes. But things would become interesting for him elsewhere."

They had then gone into Morrison's machine. It was curious, but he couldn't remember what the machine looked like now.

Morrison had stayed outside. A group of giggling schoolgirls had come in, girls ranging in years from sixteen to twenty.

Joan had pointed to a little, gleaming knob. "That knob, do you suppose?"

Oh, God, why had he done it? He was not a young show-off, but a man with graying temples and crow's-feet around his eyes. He was not a zany.

Or was he? Like most sensitive and imaginative men he had a chameleon side to this nature. In an environment of giggling frivolity his personality underwent a change. He could become positively infantile when the people around him were behaving like high-grade morons.

"Sweetheart," he said suddenly, "how much would you be willing to bet that Morrison wasn't kidding us?"

"How much would I be willing—"

"—to bet, darling? I have a feeling I could set this machine in motion just by shutting my eyes and pressing down hard."

"I'll just bet you couldn't."

"I'll bet I could."

"I bet you couldn't."

"I bet I could."

"You couldn't."

"I could."

"Couldn't."

"Could."

"Say, what is this?" Ned had interposed. "How much would it cost me to get in on it?"

"We'll all be in on it together," Temple had replied, depressing the knob.

Joan was plucking at his sleeve now, a rising hysteria in her voice.

"Ask Ned where he is," she pleaded. "He can hear us, Ralph."

Temple stood up. It was with an effort that he kept his voice low. "Where are we?" he husked. "That's what I want to know. Where are we?"

"We're inside the machine, of course," Joan said, as though she were addressing a child. "But Ned isn't. He's somewhere else. When I speak to him he answers, but he keeps talking about portholes and water than doesn't flow. Where can he be?"

"I'll find out," Temple said, and shouted, "Ned, Ned, can you hear me?"

"I can hear you, all right," Ned's voice came angrily out of the darkness. "Where did you go?"

One of the schoolgirls began to sob in the darkness.

"Stop that," Joan said sharply. "Stop that at once."

The sobbing subsided.

"Where are you, Ned?" Joan asked.

"Joan? Is that you, Joan? I told you. I'm in a sort of cabin, and Ralph was here with me. But he climbed up somewhere, and now he's talking to me, and I can't see him."

"Do you remember anything about Morrison's time machine?" Joan asked.

"Morrison? Good heavens, I haven't seen the old boy in five . . . no, six years."

"See?" Joan said. "I told you. Ned is somewhere else."

"Ned," Temple said. "Think back carefully. Where were you *before* you woke up, and told me that the water had turned to glue?"

"Say, what is this?" Morrison muttered. "You were right here with me. You ought to know."

"But Ralph wasn't with you," Joan said. "He was here with us. He crawled up out of sight, and came back again, but he wasn't gone for more than a minute."

"Hold on, Joan," Temple said. "That isn't strictly true. I was with him, but I did climb up toward the stars. Over something that felt a little like an ascending flight of stairs . . . no, a good deal like. Then I climbed down back. But I wasn't here before I climbed up."

"But you were," Joan insisted. "I lit a match and saw you."

"But how could I be in two places at the same time?"

"Didn't Morrison say something about . . . about meeting yourself yesterday?"

"Ralph, Ralph, I remember now," Ned's voice tore out of the darkness. "We're in the Morning Star. We're steaming up the Orinoco. Ralph, are you there?"

Ralph was, but he didn't say anything. He just sat down on the edge of the bunk, and stared at Cummings. The sun was pushing into the cabin now, and he could see the muddy brown river streaming by. By lying in his bunk, and reaching out a hand he could easily enough have scooped up a little water. But he had asked Ned to do the scooping, because he had awakened logy, and reaching down would have robbed him of a yawn.

The boat was one of those flat-bottomed jobs with paddle wheels on both sides, and the deck of their cabin was so far below water level that the brown tide kept threatening to come in through the open ports.

All that had seemed pretty nice once. Temple had been younger by fifteen years, and hadn't come into his inheritance yet. Lying there in the cool Brazilian dawn, with the water almost level with his eyes, he had thought himself the luckiest young chap alive.

There was something about the lower levels of a rain forest, glimpsed across muddy brown water, that lifted a man to the stars.

The stars. The changing stars, up there above him somewhere.

He sucked in his breath sharply. Ned was staring at him as though he had suddenly sprouted horns and towered to an incredible height.

"Ralph, you look ghastly," he husked. "You look twenty years older."

"I am older, Ned," he said.

"Huh?"

"Ned, this is the trip we took right after I graduated, right after you got your first job. You were trying to persuade me to go in for engineering, too."

He looked straight at Cummings.

"Ned, last night we split a bottle of port. Just now we both awakened with slight hangovers. You asked me how far up I thought we were. I said you could find out by scooping up some water, and tasting it. The Orinoco is brackish for two hundred miles."

"I know," Ned said. "And I just now told you that the river—"

"Never mind what you told me. That isn't important. Ned, we didn't split that bottle of port last night. It wasn't last night. It was years ago. You're still a college kid, but I'm not. I've aged a helluva lot."

"I don't know what you're talking about," Ned said shakily.

"Ned, think back. Don't you remember what happened in the Museum of Industrial Arts and Sciences?"

"I never heard of the place."

"But you just now spoke to Joan. You spoke to Joan out of the darkness."

"Joan? I . . . yes, the name is familiar. I have a feeling that if she spoke to me I would know her."

"Don't you remember my leaving you and crawling up toward the stars?" Temple prodded.

"You . . . you climbed up, and saw the stars?"

"Yes, and crawled back into darkness. I spoke to you there, and you answered me. Now I'm going to raise my voice and try to speak to Joan."

"Joan," he called. "Joan, can you hear me?"

"Oh, darling, where are you?"

"We're in a boat with paddle wheels steaming up the River Orinoco—in South America," he added, to make sure that she would not misunderstand him.

"Darling, climb up the stairs again. You can, can't you?"

"No. There are no longer any stairs."

"But I climbed up, darling. Just now. Ralph, we are in the center of a strange new star cluster. *All* the stars are different."

Temple scarcely heard her. He was staring out the open port at something black and ungainly that had emerged from the rain forest and was winging its way toward the ship.

It was not a bird, but a flying reptile with membranous wings which looked—he caught his breath—which looked exactly like a pterodactyl!

Someone was screaming in the darkness. "Oh, don't let it touch me. Keep it off, keep it away from me."

Temple dragged himself forward on his hands and knees, his heart hammering against his ribs. One of the schoolgirls was down on the floor and an enormous, shadowy something was bending over her. An enormous carapaced something which bore a terrifying resemblance to a giant water bug.

Fiercely Temple grappled with it. There was a long-drawn, plaintive wail, and the thing flaked away in his clasp, leaving his fingers locked together.

A match flared, and Joan came into view, her brows raised and her eyes searching his face.

Temple looked down at the thing. It wasn't. That is to say, there was a negation of light on the floor which could have been made by something vanishing. Only that, and nothing more.

But the schoolgirl was in his arms, and her companions were clustering about him.

"No wonder you came back," Joan almost hissed.

She backed away from him, her eyes blazing.

The match went out.

Impatiently Temple untangled the cool, clinging arms of a girl of perhaps eighteen from about himself.

"Joan, I found myself on my hands and knees in the darkness. I heard this young lady scream, and saw something—"

"You *did*? I saw nothing."

"Oh, but there was a something," the girl sobbed. "He saved my life."

Temple felt around beneath him until he located a chair. He sat down.

"Joan, I think I can explain everything," he said.

"Ralph Temple, I don't care to listen," came out of the darkness.

"You ought to listen," the schoolgirl sobbed.

"I'll listen. What is it, Ralph?"

"Ralph. Of all the gall!"

"Joan, listen to me. You know what happens if you travel with the speed of light?"

"I know. A lot of silly children get romantic notions about a man old enough to be a grandfather."

"Joan, I am thirty-seven," Temple reminded her. "And I'm not getting any older. Ned is fifteen years younger, and at any moment I may be a youngster myself. I think we ought to know where we stand. There may be surprises ahead for all of us."

"You mean, Ned went back in Time? But if we were just traveling with the speed of light

we'd be the same forever. We wouldn't even be moving about where . . . wherever we are. But we are moving about. Therefore we must be traveling a little faster than the speed of light. We must— No, wait a minute."

She paused an instant, then resumed. "I was a problem child in physics at Vassar, but I seem to remember that only time on Earth would stand still. If you moved with the speed of light and looked back at Earth, everything would appear to be standing still. If you moved faster, events on Earth would *unhappen*."

"That's right," Temple said. "People who don't think things through imagine that events would repeat themselves in little jerks. Come to a head, so to speak, and then unwind feet foremost. Actually they would unhappen continuously, roll backward until all history repeated itself in reverse."

"But only on Earth," Joan reminded him. "We could observe that reversal only by moving away from Earth in the direction of motion faster than light. And we could move about and grow older while watching it if we were traveling in a time machine. Our motion would not be relative in relation to the machine. That seems sort of tautological, but you get what I mean."

"I get what you mean," Temple said. "And without realizing it you've put your finger on the crux of our predicament. We don't know what reality would be like in a higher dimension than we can perceive with our limited endowments of sight, touch and hearing, but it seems unlikely that a time machine would just move away from Earth with the speed of light."

"If it did that, it would be merely a space traveler. It could only rope in space time by exceeding the speed of light, and even then a reversal of entropy would not throw us back into our own pasts on Earth. We'd just be in limbo somewhere in the rind of the continuum, or, if you prefer, outside the Universe of Stars."

"What are you driving at, Ralph?"

"Simply this. I believe Morrison was merely speaking figuratively when he talked about traveling with the speed of light. I believe that we are in limbo as far as the physical universe is concerned, but following along a fifth, or possibly sixth dimensional time track which takes in practically everything."

"I think we're in it up to our necks. I think it includes all the time-frames produced in the physical universe by motion in space, and a lot of other frames as well."

"I think we're inside the Universe of Stars, and outside it, and back with ourselves yesterday, and catching up with ourselves tomorrow. I think we're in a topsy-turvy world where anything could happen."

"Ralph!"

"Well, I was in two places at the same time, and I climbed up and looked at the changing stars over a stairway that comes and goes. And although Ned is back in the past, it's an abnormal past in half a dozen respects. In the first place, it's unraveling in the direction of the future, which is the way it wouldn't unravel if we were traveling away from it in the direction of motion. In the second place, something has interfered with the molecular flow of the water outside the boat, and I saw something that looked like a pterodactyl come flapping out of the rain forest.

"In the third place, although I can move back where Ned is I don't grow younger when I move back, and I can remember things which he has forgotten. In the fourth place, we can talk to one another *across* time, and if you know anything about acoustics I don't need to point out that you can't do that ordinarily. In the fifth place, the thing that came in just now from *outside*, flaked away when I clasped it, and couldn't have been—"

Temple leaped back with a choking gasp. Another shape was coming toward him through the darkness, a faintly luminous shape which bore a terrifying resemblance to a magnified body louse.

"How would you like to have twenty toes instead of ten?" Temple asked. "How would you like to turn around and meet yourself—yesterday?"

"Huh?" the old man muttered, stroking his thin beard. "What say, youngster?"

"Grandpop, I'm not a youngster. I will be forty-four come midsummer. But I was a youngster, a green kid of twenty-two, when I picked up this scar."

As he spoke, Temple opened his hand, and exposed a palm which was all knots and livid creases.

"Aye, I was young myself once, son," the old man said, and there was a dignity in his gaze which had not been there a moment before.

Temple elevated his fishing rod, and leaned forward on the black wharf. He hoped they'd catch something. The flats were supposed to be running. Up and down the wharf other fishermen were pulling them in, but he hadn't had a bite for hours.

The blue sunlight seemed to deepen about him as he parried the old man's stare. "There was too much life on that planet, grandpop," he said. "It filled the hollows and windy places, and dripped down into the sea."

The old man nodded, his bleary gaze traveling to an orange-red bobber far out on the flaking tide. "The third planet from the Sun, you say, in a system with nine planets?"

"That's right, grandpop. Nine planets—one very small, four a little larger, or a little smaller than Kamith, three quite huge, and one larger than all the rest put together. One of the huge ones

was encircled by a series of wide, flat rings—two luminous and one smoky, with dark bands separating them."

"There is a planet like that in the Rugol System," the old man said.

"I know. But this system was close to the center of the known universe, and had a quite ordinary sun. In density, size and luminosity quite ordinary."

"Hm-m-m."

"But that third planet was not ordinary, grandpop. It was more remarkable in some respects than the ringed planet. It was as though—well, you know what happens when you overfertilize a garden plot?"

The old man nodded. "I have loved flowers all my life," he said.

"We think we know what parasitism is, but we don't. We don't at all. On Kamith we have a few plants which suck the juices from other plants, a few animals which prey on other animals. But on that planet—*ugh*."

He leaned forward and spat into the flaking tide. "There was too much life on that planet, grandpop, but there was also something else. Courage outlasting the vehicle that gave it birth, human thought surviving the brain from which it came."

Temple scrutinized the horizon somberly for an instant, his fingers tightening on the cork handle of his fishing rod.

"Grandpop, I think we must accept the theory that life evolves along parallel lines everywhere in the Universe of Stars," he said. "Before we invented space-time machines we thought our sun with its five planets was a stellar anomaly, but we know now that there are other planetary systems scattered throughout space, other cool worlds capable of supporting life.

"The blue sun that warms Kamith is not the only life-giver. The giant red suns on the rim of space have their Kamiths, too, their inhospitable outer planets, and there are suns no larger than planets, with satellites so small that—"

"In fifteen minutes I've got to wind up my reel," the old man prodded. "My daughter goes off the handle when I'm late for supper."

"Well, we were there in one of those backward-forward jobs which set your teeth on edge when you're deep in the continuum, and make you wish that time-space machines had never been invented," Temple said. "We had come out on the bleak, northern plains of a continent shaped like a swollen question mark.

"We set electrostatic surveyors to work the instant we emerged, and blocked in the outlines of the entire land mass on our geodesic screen. A little to the southeast of us there was a long, straight river opening into a shallow bay, and a little to the northwest were five large lakes which

looked on the screen like sausages strung on a wire.

"But of course small, cool, inner planets are pretty much the same the universe over, and in general the topography didn't differ much from . . . well, from back there."

He twisted his shoulders about and gestured toward the rolling farm country behind him.

"How many were in the party with you?" asked the old man.

"There were fifteen of us, grandpop. We were there on an assignment which took in nearly every branch of natural science."

"Interstellar Survey, eh?"

"That's right, grandpop. The Survey has been limping along without me for thirteen years now, but I was a promising youngster in those days, and knew more about field theory than my chief."

"I cornered the market once," the old man said. "Now they don't even remember me down on the Street."

"The Survey remembers me, all right," Temple said. "But I inherited fifty thousand a few years ago, and decided to become a gentleman of leisure. Right after the crash I tried to get back, but, hell—there were six thousand young upstarts lined up ahead of me."

"With a little foresight, a man can live on very little," the other said.

Temple nodded. "I've learned how to economize. But to get back to this little, inner planet. Everything was covered over with an oozy coating of life. It was like jelly, and it took different shapes—"

"Could you maybe describe it without adjectives, son? My daughter gets on a high horse when I'm late for—"

"Well, think of a china cabinet filled with bric-a-brac. The cabinet is the skeleton of some animal dead a hundred thousand years. The bric-a-brac is the slime building up into cubes, octahedrons, icosahedrons, stellated dodecahedrons, and so on. We even encountered a few snub cubes.

"In case you don't know, a snub cube is a thirty-eight-faced figure having at each corner four triangles, and one square. Six faces belong to the cube proper, eight to the coaxial octahedron, and the remaining twenty-four to no regular solid."

"Ouch, son. I've never had no regular schooling in mathematics."

"What I'm trying to say, grandpop, is that this slimy, primitive life seemed to conform to the laws of crystallization. We found crystallographic axes of reference when we studied the stuff, but of course the more complicated polyhedrons would have baffled a crystallographer. About the most complicated example of *crystalline* growth is a scalenohedron built up of rhombohedra."

"That's what I'll be eating for supper tonight, boy, if you don't get on with it."

"Well, I'm convinced that the stuff was alive in a protoplasmic sense, for there was a dumbbell shape that traveled around like a rhizopod as well as long ribbons of slime which feasted on the polyhedrons and dripped and drooled all over the landscape. Most of the polyhedrons had an eaten-away look, and of course kept dissolving back into structureless slime.

"If it wasn't for your daughter, I could ramble on for hours, because it was the strangest kind of life imaginable. It was life which sustained itself by preying on the more complicated aspects of itself, if you get what I mean."

"You mean it built itself up into something, got tired of being eaten alive by itself, and dissolved back into slime."

"That's about the size of it," Temple said.

"But, son, why didn't it eat itself altogether up?"

Temple shrugged. "Perhaps it reproduced by absorbing solar radiations as well as feasting on itself," he said. "Your guess is as good as mine."

"You were saying, son—"

"Well, when we stumbled on the huge, corrugated cylinder we thought at first it was just the skeleton of one of the old backboned animal forms that had roamed that planet once—another china cabinet. Joan was so sure it was a china cabinet that she started scraping off the jellylike coating of polyhedrons with a stick, and—"

"Joan?" the old man wanted to know.

"She was our geologist. A silly little thing. A strawberry-blond geologist."

"When I was twenty," the old man said, "I liked blondes, brunettes and redheads. How could she be on the Survey if she wasn't bright?"

"Oh, she was bright enough when she forgot that she was a woman. But when she accidentally remembered, her I. Q. of one hundred fifty went into eclipse—"

"You were saying—"

"When Joan scraped off the polyhedrons and exposed a corrugated expanse of gleaming metal she leaped back into my arms and held on tight to me.

"I was plenty startled myself. The cylinder was about one fourth the size of our backward-forward jeep, and there was a little, projecting knob at one end. At first glance it looked large enough to hold five or six people, if you packed them in tight.

"Actually, it was large enough to hold a round dozen standing about in groups. It's hard to realize how much room there is inside a really large cylinder unless you shut your eyes and run an imaginary line parallel to itself through the circumference of a curve. I mean, you have to

sort of construct another cylinder in your mind's eye."

"Son, my daughter—"

Temple nodded. "You've asked me to hurry this along, so I'll skip over how we felt inside ourselves and concentrate on what happened inside the cylinder."

"The knob opened it up, eh?"

"The instant we tugged at it. There was a humming sound, and the end of the cylinder swung inward, revealing a patch of inky blackness divided into sections by hanging ribbons of slime."

"In other words, the slime had seeped into the cylinder and we could hear it dripping all about us in the darkness. I walked in first, and Joan came tagging after."

"I advanced eight or ten feet over a floor that seemed to keep slipping out from under me, and then put a hand out to one side. Under my palm the wall seemed to crawl, and I wanted to turn around, and get out the instant the slime started coiling around my wrist. But for an instant I couldn't seem to move. I heard Joan cry out, but I couldn't move a muscle."

"Up above me a dull, spreading radiance was coming into sight. It seemed to flow down toward me over something that looked a little like the keyboard of a piano which someone had designed without calipers to avoid offending a forty-foot giant."

"As I stared up some chill thing brushed me, and the light grew brighter."

"My head began to spin, and for a minute I felt as though all the breath were being squeezed from my lungs. I fell to my knees and started climbing up toward the light. Although the surface beneath me felt a little like an ascending flight of stairs it could have been simply a corrugated metal ramp covered over with a thin coating of slime."

"For a long time I kept climbing. The higher I climbed the brighter the light became, and suddenly it was blazing all about me, and I was no longer alone."

"She was sitting on a high wooden stool clasping a rag doll, grandpop—a little girl not more than six years of age, with curly auburn hair and dimples in both cheeks. She seemed to be in a sort of day nursery. Behind her was a wall with animals on it, and above her was a pale-green skylight, and she was digging her knuckles into her eyes, and sobbing as though her heart would break."

"Grandpop, I recognized her despite the dazzling light, and the dimples, and the fact that her feet scarcely touched the floor. She was our strawberry-blond geologist, the girl who had leaped back into my arms not five minutes before."

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"She had Joan's hair, and lips and eyes, and when she stopped crying and looked straight at me there was a glint of dawning recognition in her gaze which chilled my heart like ice.

"Grandpop, nothing could much surprise me after that, but it was terrifying all the same to find myself suddenly in another place, surrounded by utterly blank walls and under a green light that streamed down upon me from a sort of inverted funnel set in an overhead that had a mirrorlike sheen and kept moving erratically about.

"When I looked down at my feet I got another jolt. I had four feet, two pointing ahead, and two pointing straight back. Worst of all, my shoes had become completely transparent, and I could see all twenty of my toes.

"I started wriggling them, first on one set of feet, then on the other, my heart going drippety-drop. I was still at it when the light went out and a long, gleaming panel studded with little knobby protuberances came into sight."

There was a brief instant of stillness while Temple cleared his throat.

"Grandpop, that panel looked exactly like the control panel of Morrison's dimension-dissolving jeep—the big, unfinished question mark of a machine which stood in the Museum of Industrial Arts and Sciences a quarter of a century ago."

"But, son, how could that be?" the old man gasped.

"Grandpop, I don't know, unless—well, you remember what I said about life evolving along parallel lines everywhere in the Universe of Stars?"

The old man hunched his eyebrows. "Life perhaps, son. But certainly not the products of human civilization, not complicated inventions."

"Why not?"

"I'll tell you why not, son. Primitive human societies don't become complex and give rise to a flood of mechanical gadgets by natural selection. But even if they did, the chances of exact parallels occurring on any two planets, let alone a million planets, could only be expressed by a figure trailing off into more zeros than there are light corpuscles in the Universe of Stars."

"Grandpop, I've a feeling you're wrong. There seems to be a dynamic chopping block at work everywhere in the Universe which lops off most of those zeros. You can call it the Law of Eliminative Recurrences or anything you like so long as you broaden it to include not only biological evolution, but the whole vital scheme of things from protein molecules to—well, to backward-forward jeeps and Museums of Industrial Arts and Sciences."

"I don't quite—"

"Well, perhaps an equation will help you to see what I'm driving at. A cluster of protein

molecules from the warm, primordial seas of any cool inner planet plus a billion years of time equals a Morrison dimension-dissolving jeep in a Museum of Industrial Arts and Sciences."

The old man's jaw gapped. "But, son, that's just another way of saying that the makings of life anywhere in the Universe would turn into you and me sitting here."

"Given time, yes."

"Just a minute, son. Before you say another word, there's something I want to get straightened out. What's your name?"

"Huh?"

"What's your name, son?"

"Ralph Temple."

"All right. Mine's Ned Cummings. You mean to say there are a million Ned Cummings and Ralph Temples, all exactly alike, on a million inhabited worlds?"

"Well, I said that the panel inside that cylinder was exactly like the panel of Morrison's machine. But I had an odd feeling that the spacing between the plug-ins was a hairbreadth wider here, narrower there; the color of the metal a shade darker—"

"How could you tell, son? Did you see Morrison's machine?"

"I did, grandpop. I spent an entire afternoon in the Museum of Industrial Arts and Sciences a quarter of a century ago. Grandpop, Morrison was a man of genius. Had he lived to complete that jeep we might now be breaking down time tracks right up to the sixth dimension."

The old man stared. "You *knew* Morrison?"

"I did, grandpop. We went to college together."

"I see. Son, you haven't answered my question."

"Well, as to being *exactly* alike I . . . don't know. There might be deviations and discrepancies. On other planets we might not be caught up in the same sequence of events, or have the same casual relations one to another. What I saw inside that cylinder convinces me that the parallels I spoke of may be as alike-unlike as certain crystalline aggregates. That is to say, you may get clusters that are identical, others that vary a little, and a few that go off the deep end, so to speak.

"We may be duplicated exactly on twenty thousand worlds and closely a half million times. Morrison's jeep may be duplicated with a black, gray, or even pink control panel. We may be sitting here fishing on Planets Zwolle and Aason, and on Planet Sebek you may be my own great-grandfather. You've got to remember that the similarities could be simply staggering in patterns which go off the deep end in half a dozen respects. I mean, if we stick to the crystalline aggregate analogy."

"We may as well stick to it, son."

"Well, the pattern inside that cylinder had gone

off the deep end with a vengeance. Someone back there on that little inner planet, some other Morrison, had lived to complete his jeep. Grandpop, that panel had been set for a trip right up through the sixth dimension, and back down around through the inner-outer rinds of fifth, and fourth dimensional space.

"Grandpop, our Morrison had spent an hour and a half explaining that plug-in to me. It was to be his greatest achievement, the most ingenious of six alternative plug-ins. Once around the sixth dimension, grandpop. Up and around you go, and before you know it you're right back where you started from."

"You mean it was set for a round trip."

"For a round trip, grandpop. But as soon as I saw that panel I knew that something had gone wrong, and that the Strangeness was in permanent command."

"The Strangeness?"

Temple nodded. "Our Morrison called it the Strangeness, as though it were a living thing. He showed me a bulb, grandpop—a little green bulb set in the control panel."

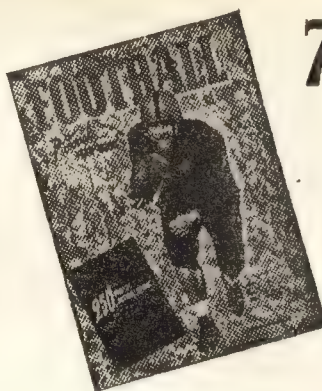
Temple cleared his throat. "Grandpop, you've got to remember that no one knew as much about the higher dimensions of time as our Morrison. He had calculated the properties of time bent back upon itself with a number of curious little vacuum-tube gadgets which looked like miniature replicas of the machine.

"He . . . he had another name for the Strangeness, grandpop. He called it the Dimension of Unreason. He thought he could send the machine around up through it, and around down back without permanently injuring the people inside.

"But of course he wasn't sure. His jeep was never completed, and I doubt if it ever will be. His notes and diagrams and models have baffled our best minds for a quarter of a century now.

"Grandpop, Morrison told me that the bulb was a delicately adjusted synchronoscope. So long as it remained intact, he assured me, the plug-in would carry the machine once around the sixth dimension. The Strangeness would warp space-time frames inside the machine, but wouldn't actually break them down. So long as the bulb remained intact, the warped frames would straighten out again, and the passengers return to a twentieth-century Kamith alive and unharmed. 'But if the bulb goes, Ralph, the machine will return a million years in the future, and the passengers will be dust, and I wouldn't want to step inside, or be on the same planet with the Strangeness.'

"Whenever I shut my eyes, grandpop, and travel back in memory to that day at the museum I can still hear our Morrison making out a case against himself. He was planning to use three or four



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people as guinea pigs, precisely as the other Morrison had done.

"Grandpop, kneeling there in the other Morrison's machine, staring down at the other Morrison's control panel, I realized with a sickening jolt that the weird crystalline life which filled the hollows and windy places and dripped down into the sea was a part of the Strangeness. It hadn't seeped into the machine at all. It was from the sixth dimension, and had seeped out of the machine over a sterile world.

"Grandpop, on that control panel the bulb was no longer intact. On that panel the bulb had been smashed! Cold sweat poured out over me as I stared at it, and suddenly I was no longer alone in the darkness. Pressed close to me was the Joan I had lost, a Joan who was no longer a little girl.

"I've been searching for you everywhere,' she sobbed. 'Through the blackness, the thick blackness—'

"Grandpop, I took that half-hysterical, strawberry-blond chit of a girl into my arms, and kissed her.

"I suppose it meant I was glad she had come back. A man scarcely knows when he is all cold inside, and wants to crawl off where the Strangeness can't get at him.

"We were holding on tight to each other and trying to reach some kind of swift decision which would light a little candle of hope for us in the darkness when the voices started in.

"All about us in the darkness we could hear a faint, musical whispering.

"Get out, get out quickly. Flee. Escape—get out, get out. Escape, we'll help you. There is still time. Escape, get out—flee.'

"Joan gasped, and the back of my neck seemed to freeze.

"We are one and we are many, and we will help you.'

"A little sob flew out of Joan's throat, and the darkness seemed to turn over to embrace us more tightly.

"Something was taking shape directly before us, grandpop. Something that looked a good deal like a great, shining wheel. We could see the spokes, but the circumference of the disk was enveloped in a nebulous haze, and the hub was a filmy blur which had an air of being somehow terrifyingly *alive*.

"Unmistakably as we stared the wheel pulsed and brightened, and suddenly the circumference resolved itself into a circle of bobbing faces joined by weaving filaments of flame. The sad, calm faces, grandpop, of twelve young girls ranging in years from sixteen to twenty. Around and around they went, with luminous flickerings. Around and around, as inexorably as a sunmill.

"Grandpop, the circumference of that wheel overshadowed all the nightmares of my childhood,

but what turned my blood to ice were the faces at the hub. From the hub of that great, revolving wheel our own faces stared back at us. Joan's face and my face, and the face of a young man who looked a little like *you*, grandpop. He was scarcely more than a boy, and his hair was jet black, but somehow—he reminded me of *you*."

"Good Lord," the old man said.

"Suddenly the voices started in again. 'Stand up, join hands, and walk eight paces forward. There is still time.'

"Grandpop, we were under a compulsion. We *had* to obey. Joan's small, moist hand crept into mine, and we got swayingly to our feet.

"Trembling in every limb, we took eight tottering steps forward. Instantly the darkness fell away, and we found ourselves standing on a high white cliff overlooking a tranquil sea. When we looked down into the water we could see broken domes and turrets and twisted masses of wreckage and when we looked up the sky had a timeless look, and the sun was a hoary disk that seemed to be nearing the cinder stage.

"The desolation everywhere about us was terrifying, but looking down was especially bad because the sea was shallow for miles, and we could tell at a glance that an inventive age had drawn a canceling line through all of its achievements from the viewpoint of humanity.

"Looking down, I thought of Edgar Allan Poe's 'City in the Sea':

There shrines and palaces and towers,
Time-eaten towers that tremble not,
Resemble nothing that is ours.
Around by shifting winds forgot,
Resignedly beneath the sky,
The melancholy waters lie.'

"Maybe that city had once stood on a high mountain peak, and time had leveled it. I never knew, for the scene around us suddenly changed, and we were in the midst of a mighty forest, grandpop. Enormous, mottled serpents dangled from the boughs overhead, and an odor as of rotting vegetation surged heavy on the tainted air.

"Turn right, and take four slow steps backward,' the voices hummed.

"Automatically we obeyed. The floor seemed to rise, and we were standing on another cliff gazing out over another sea. But now there was no city beneath the waves. We seemed rather to be gazing out over a scene from the Jurassic Age. In icy shallows polar lilies grew, and directly beneath us a huge, long-necked lizard shape was floundering sluggishly about.

"You're moving now through fairly stable time-frames,' the voices hummed. 'We're helping you out. Keep your hands clasped, and advance six short steps.'

"Mechanically we obeyed. Within a space of seconds the cliff dropped away and all about us there appeared—*machines*, grandpop. Dozens of great, glistening, manlike machines which stood staring at us with a subtle air of contempt, as though we hadn't ought to.

"Turn left now—sharply,' the voices hummed. 'Walk straight ahead. There are forces here which could destroy you. You must walk straight out.'

"The sullen robots fell away as we swung about. Sweating in every pore we advanced toward a square of misty radiance which pulsed and expanded and grew swiftly brighter until it seemed to fill all space about us.

"Pass straight out. Go back to your own world. Go back—go back.'

"The voices had grown fainter, but we could still hear them, grandpop. In the midst of the glow, and as we broke into a run—plaintive and pleading and hauntingly musical.

"You must not stay. You must go back to your own world. There will be upheavals, for the life on the plains and mountains is alien to Urth. It is alien, alien—it is building up tension.'

"To *Urth*?" the old man interrupted.

"To Urth, grandpop—a name with a strange, raw rasp to it. A name difficult to pronounce."

"And the voices hummed—"

"Good-by and good luck. You must not stay. Go back to your own world. Go back, go back. Good-by and good luck.'

"Grandpop, the radiance became blinding suddenly, and we felt ourselves falling."

Temple set down his fishing rod, leaned forward and opened his hand again. "See that scar, grandpop?"

"You showed me it before, son."

"Well, it was my wedding present to her."

The old man's jaw fell open. "Your wedding—"

"Instead of *joining* hands, we underwent a minor operation. We had to do that. We couldn't spend the rest of our lives holding hands, could we?"

The old man's jaw sagged lower. "So you're ticky in the coco! I might have known. Ticky in—"

Temple smiled. "Grandpop, when we found ourselves outside the cylinder, on the dun, firm ground, with that strange crystalline life all about us again, I'll admit I thought so myself. For a moment I doubted my own sanity. But when we

got swayingly to our feet, it was as though my sanity had been multiplied a hundredfold. For when Joan tried to pull her hand from my clasp, and it wouldn't come free, only a very sane man could have taken it in his stride. Y' see what I mean?

"Looking down, and observing that our palms had been welded together by 'wild talents' inside the Dimension of Unreason, I didn't go off the deep end. I knew that we'd been lucky, and that a minor operation was all that we'd be needing."

"Holy suffering cats!"

"She was just a little thing, grandpop. But when you hold a woman's hand day after day, week after week—there were no surgeons on board our backward-forward jeep—you're apt to find yourself getting all steamed up over trifles you've never even noticed before. I began by overlooking her defects, and ended by asking her to marry me.

"Grandpop, we were spliced by the commander on the twelfth week out. Later on, I got to thinking. Take two pairs of people, grandpop. One pair is the exact duplicate of the other pair. They look and think and feel alike, and there isn't a hairbreadth of difference between them. Have you really four people, or just two people?"

"Son, I couldn't say. I'm not Hegel."

"Well, for twenty-two years now, grandpop, Joan and I have been making up for all the happiness we lost near the center of the known Universe—on a cool, little inner planet called Urth. And somehow, grandpop, I've a feeling that the faces at the hub of that wheel had hoped that we'd do that.

"I have a feeling that the wheel was—well, courage outlasting the vehicle that gave it birth, human thought surviving the brain from which it came.

"Grandpop, there may be a million Joan Harveys and Ralph Temples in the Universe of Stars, and some of us may have gone off the deep end. But here on Kamith, Joan and I have made up for all the losses, for all the mishaps, for all the patterns that didn't jell right. We may have been Morrison's guinea pigs on Urth, but on Kamith—"

"I wish I had caught some flats," the old man said, getting slowly to his feet. "Yes, I see what you mean. I see what you mean, lad."

"Give your daughter these," Temple said, raising a string of summer flounders from the flaking tide. "I'll stay and catch some more. Joan won't be expecting me for another hour yet."

THE END.



JOHNNY HAD A GUN

By Robert Moore Williams

● Johnny was a rat and a gangster and he killed a man. That didn't bother the police particularly; they expected it of him. But Johnny's gun—didn't belong!

Illustrated by M. Isip

"Where'd you get it?" Nelson asked. He was a lieutenant of detectives, and a big man with square shoulders and a lean, angular face. His hat brim was pulled down low so it shielded his eyes.

Besides the lieutenant, there were three men in the room. Two of them were plain-clothes men of the detective detail.

The third was Johnny.

Johnny was sitting in the special chair reserved for guests. He was young, with a hard, bitter face, and he was trying to look brave and defiant, but he wasn't succeeding. He knew where he was, all right; he had been here before. He knew what that bright light that could be swung down from the ceiling was for and he knew what this room was for. He also knew how he was supposed to act when he was brought here—hard and tough and not tell nobody nothing. He didn't answer.

Nelson surveyed him from impassive eyes. "I asked you where you got it, Johnny," he repeated.

"None of your damned business!" Johnny snarled.

One of the plain-clothes men got to his feet. He didn't have to move more than a yard and he made it in one stride, his right arm drawn back, palm open. Johnny saw him coming and tried to squeeze himself down into the chair, a snarl on his face.

"No, Kelly," said Nelson.

The plain-clothes man stopped. His arm drawn back, he looked in surprise at his chief. "Did you hear the little rat sass you?" he questioned. "Let me smack him a couple, to teach him to answer when he's spoken to. I won't leave any scars on him. Just a couple of open-handed licks, to loosen up his backbone."

"No," said Nelson.

The detective looked at him, muttered incredulously, then subsided into a chair.

The lieutenant said nothing. He lit a cigarette, using a wooden match that he struck on the sole of his shoe, and blew smoke from under the brim of his hat. He glanced up at the light that could be lowered from the ceiling, then sat in thought for a few moments. Then he half turned in his

chair and reached behind him. There was a table there, with a variety of things on it. From them he selected a metronome. Carefully winding the spring, he set the metronome back on the table. It went *tick-tock, tick-tock, tick-tock* with maddening regularity. The criminal's frightened eyes followed his movements as he settled himself again in his chair, crossed his legs, and began to blow smoke rings out from under the brim of his hat. The rings were perfect. The room was silent.

Tick-tock, tick-tock, tick-tock, went the metronome.

"Aw, boss, let me work this mug over," Kelly blurted out. "He'll tell us where he got it, when I get through with him."

Nelson looked at him. The detective shut up in a hurry.

Johnny was watching all this, darting nervous, apprehensive glances from one man to another, but always coming back, with a kind of sick fascination, to the lieutenant. Johnny was young; maybe nineteen, maybe twenty-one. It was hard to tell. His face was older. There was a scar on his right cheek, a relic of a thrown brick. Among his associates this was a mark of envy, for it entitled him to be called Scarface. Or maybe it would when he got older. The scar was beginning to twitch.

Nelson lit another cigarette and blew a ring that went down toward the floor, and striking the concrete, spread itself into a much bigger ring.

"I found it," Johnny blurted out.

Nelson glanced at him, saw that the scar was twitching more than ever, and continued looking at the floor. He blew another smoke ring, which struck his knee and collapsed.

Johnny looked as if he expected somebody to dispute his statement. Nobody did. Then he looked as if he expected someone to question him further. Nobody did that, either. In the background the metronome was methodically ticking away, keeping time for some imaginary orchestra. Johnny looked from the lieutenant to the two detectives. One of them was cleaning his fingernails.



Kelly had leaned his chair back against the wall and was apparently asleep. Johnny looked at Nelson, but the lieutenant was still blowing smoke rings. Johnny leaped to his feet.

"I tell you I found it!" he shouted. "Didn't you hear me? I found it."

His voice was high and shrill. He leaned toward the lieutenant, his hands going out as if he wanted to take him by the throat and shake him, but just then Nelson glanced up and Johnny jerked his hands back, quick. Kelly let his chair lean back against the wall and closed his eyes again.

"I heard you," Nelson said. "You told me you found it." He shrugged.

"You don't believe me!" Johnny challenged.

"Did I say that?"

"No, but you mean it."

AST—7N

Nelson didn't answer. He snubbed the cigarette with great care in an ash tray and with equal care and deliberation lit another one. Johnny watched him. Sweat had appeared on the little criminal's face and the pupils of his eyes had enlarged until they covered almost all of the iris. His hands were jumpy. He couldn't keep them still. Suddenly he grabbed the plain-clothes man by the shoulder.

"Look, lieutenant, I'm coming clean with you," he babbled. "I did find it. You don't have to believe me if you don't want to, but just the same I found it. It was like this. See, lieutenant, it was like this—"

He was frantically shaking Nelson now. Kelly and the other detective were watching with the fixed intentness of beasts of prey, but they didn't

move. Nelson didn't seem to know there was a hand on his shoulder. He shoved his hat back and looked up.

"A dame I know called me up and asked me to meet her tonight down on Second Avenue," Johnny said. "The minute I turn up at where she is supposed to meet me, I get it's a frame, see? I'm on the spot. For there was Gimp Lukats hiding in a doorway across the street."

He paused and his lips curled into a snarl. "That dame has put me on the spot, see? Gimp was waiting over there until I turn up and then he was gonna knock me off. He had an overcoat thrown over his arm, but there was a sawed-off under the overcoat. Gimp was a trigger man, see?"

Nelson nodded. He knew about Gimp Lukats and he could guess why the torpedo had been waiting for Johnny. Not that this mattered. He was not even slightly interested in why Johnny was on the spot.

"What happened?" he asked.

"Well, since I'm meeting this dame and I figger I won't need it, I ain't got my gat with me," Johnny said. "And there Gimp was coming toward me—"

He paused. Perspiration streaked his face as he relived that scene. A trigger man with a sawed-off shotgun wrapped up in an overcoat was coming toward him— A tremor shook his body.

"I lammed into the first place I saw," he continued. "A passageway between two buildings. I ducked into it, figgering I could duck out the other end and give Gimp the slip."

He wiped sweat from his forehead. Nelson said nothing. The only sound in the quiet room was the monotonous ticking of the metronome, still beating time for an imaginary orchestra.

"Only there ain't no way out!" Johnny gulped. "It's a dead end. Looney, will you turn that damned thing off?" He gestured toward the metronome.

"Sure," said Nelson. "Sure." He reached behind him and shut off the instrument. "What happened then?"

"There was a door at the left and I ducked into that," Johnny said. "It was dark in there and I turned on the light to see if there was any way to get out. There wasn't any way to get out, but it was lying on the table."

He whispered the words. Nelson's eyes were drilling into him, searching every nook and cranny of his face. The two other detectives had leaned forward and were listening intently.

"Go on," said Nelson.

"It was just on the table," Johnny stammered. "It was just laying there—"

"What did you do?"

"Hell, I grabbed it! Believe me, I grabbed it fast. I thought it was a gat, see? It looked like

a gat and I thought it was one. The second I picked it up, I saw it wasn't one. It was too light. And when you looked at it, you saw it wasn't a gun. It looked like—" He fumbled for words. "Like one of them Buck Rogers pistols you see in the funny papers."

He stared defiantly at Nelson as if he expected the detective to call him a liar. Nelson didn't. "What happened then?"

"Well, I stuck around there for maybe a couple of hours. I was giving Gimp time to leave, see? He wouldn't hang around. When I figured the coast was clear I started to beat it."

"You took this gun that you had found with you?" Nelson queried.

"Yeah. I figgered if I got in a tight spot I might be able to run a bluff with it. It looked like a gat and if you point something that looks like a gat at somebody, he ain't gonna look close enough at it to read the trade-mark. So I went out of there. And Gimp was waiting for me. He had hung around longer than I thought he would. He started to throw down on me with that shotgun. I didn't have any time to think. I done just what I would have done if I'd had a real gat—I pulled out this toy pistol and pointed it at Gimp and pulled the trigger."

An expression of awe crossed his face. His eyes lost focus. He shivered.

"The damned thing worked!" he gulped. "Or I guess it worked. It hummed in my hand and something shot out from it. It hit Gimp. And Gimp exploded."

Ague shook him. "The next thing I knew pieces of Gimp were falling all around me and people were screaming and the flattie on the beat had cuffs on me."

He turned to Nelson. "Looney . . . I mean lieutenant, did I really do that to Gimp? Did he really explode?"

"I don't know whether you did it or not," Nelson said slowly. "But Gimp certainly exploded."

In spite of himself, the lieutenant shuddered. He had seen violent death in many forms, men with their heads caved in, with all bones broken, with their guts dragging on the sidewalk, but he had never seen anything like this. He had been in a squad car near the scene and a radio call had sent him hurrying to it. He had found a totally bewildered young criminal in the clutch of an equally bewildered patrolman and he had found bits of flesh scattered all over the street, splattered against the walls of the building, draped over Neon signs. Bone, pieces of intestines, blood— Nelson quickly lit another cigarette.

"That's a bunch of poppycock!" Kelly blurted out. "What did you really do to him? Not that he didn't have it coming, for this and a lot of other things, but how did you really knock him off?"

You talk up and it'll go a lot easier with you."

"I've told you—"

"Nuts!" the detective exploded. "You've told us a cock-and-bull lie, that's what you've told us. Speak up now, before I knock all the teeth out of your head."

"It's the tru—" Johnny began.

The detective slammed him back into the chair. "Come clean," he raged. "Or I'll break you in two." His fist was drawn back ready to strike.

"Sit down," said Nelson.

"Aw, Looney," Kelly begged, turning to his superior. "Let me knock the truth out of him."

"Maybe he has told us the truth."

"Hun?" Kelly was startled and he looked closely at the lieutenant to see if he was being kidded. "He finds a toy gun and he points it at a guy and it goes off and the guy explodes! That don't make sense!"

"Did I say it did?" Nelson snapped, irritation in his voice. Hearing the irritation, Kelly hastily sat down.

The lieutenant pushed his hat far back on his head and frowned. There was something about this case that he didn't like, something that almost made him wish he was back pounding a beat. The boys on the beats didn't have to think, or not much. The more he thought about this case the less he liked it. A knock sounded on the door.

"Come in," he said, without looking up.

The door opened. One of the lab men stood there. He had a curious little object in his hand. It was not as big as a .45-caliber automatic, but it was about the same shape, with a butt, trigger, and sights for aiming. It was made out of some gray silvery metal that was very light. There was a round opening at the muzzle, but this opening was covered by a thin screen. It looked like a gun and yet it didn't look like a gun.

"I don't know what this thing is," the lab man said, nodding his head at the object in his hand. "I've never seen anything like it before." He seemed bewildered, and a little scared.

"If you pointed it at something and pressed the trigger, what would happen?" Nelson asked.

"Nothing," the lab man said promptly. "We tried it."

"You did? You got a lot of guts."

"I told you it was a cock-and-bull story," Kelly said.

"Yeah?" the lieutenant answered. "Maybe, when they tried it in the lab, it was empty. Maybe Johnny emptied the magazine."

Kelly shut up again. Nelson looked up at the man from the laboratory. "What do you think?" he asked.

"Hell, lieutenant, I don't know what to think. I know this much: it's not a toy. It's *made*. What I mean, it's really made. The fellow who put this together was an expert. Here, look at the work-

manship that went into this model."

Nelson took the gun, turned it slowly in his hands, studying it intently. Whoever had put it together, had been a master craftsman. The parts fitted with microscopic perfection. In the end of the butt was a glass panel. He held it up to the light and looked inside. In an automatic, this was the magazine. He could see a series of tiny coils and some other instruments that looked as if they belonged on the inside of a watch. He pointed it at the opposite wall and put his finger on the trigger.

Johnny flinched and his face went gray.

Nelson didn't pull the trigger.

"Thanks for your trouble," he said to the lab man.

"That's O. K. Say, when you're through with that thing, I'd like to take it apart and see what's inside it."

"Um," said the lieutenant. "Maybe. It's evidence. Did you check it for prints?"

"Yeah. None but his," he nodded toward Johnny. "Oh, there were a lot of old smudges but we couldn't bring them out. Anything else?"

"I guess not," Nelson answered thoughtfully. "Not unless you can tell me who made this thing."

"I can't tell you that," the lab man answered, leaving.

"That's the trouble with the boys in the lab," the lieutenant mused. "The one thing you really want to know, they can't tell you."

His eyes went across the room to Johnny. "Son," he said, his voice soft and kind. "Where did you get this thing?"

"I told y—"

"And I heard you!" Nelson rasped. "I'm getting damned sick and tired of listening to you run off at the head. Tell me where you got this thing?"

"I—"

"Shut up! Are you going to tell me the truth or am I going to walk out of here and leave you and Kelly to talk this thing over?"

Kelly stood up at this. "Now you're talking sense, Looney," he said enthusiastically. "You go down and chin with the desk sergeant for a while. When you come back I guarantee this punk will be spilling his guts." He reached over and smacked Johnny on the side of the face with his open hand, using the base of his palm. Then he stepped in front of the kid and began slapping him alternately with his right and left hands.

Smack-smack, smack, smack—

Johnny began to cry. "Honest to God, lieutenant," he whimpered.

"Tell us the truth!" Kelly snarled. "This is just a sample of what you're going to get if you don't come clean."

"I've told you everything I know," the kid screamed. He was crying louder than ever now,

in great gulping sobs, and at the same time trying to protect his head with his hands.

"Oh, all right," the lieutenant said, exasperation in his voice. He never liked these third-degree scenes and he never let them happen, except when he *had* to know. "Stop it, Kelly."

"Huh? I'm just getting started."

"And you're just getting stopped. Come on. We're going to take Johnny down and have him show us where he got this thing." He fixed the crying criminal with his eyes. "Kid, if you're lying to us, I feel sorry for you."

"I'm . . . I'm not lying, lieutenant."

Kelly and Nelson sat in the back seat with Johnny between them. The other detective drove. Kelly muttered to himself all the way, but Nelson sat in thoughtful silence.

The crowd was gone from the place where it had happened. Men in uniform had seen to that. A few stragglers remained, dodging cops and gawking. People were passing on the street. From the number of police around, they knew something had happened, but they didn't have a chance to learn what.

A plain-clothes man lounged over to the car when it drew up to the curb. Recognizing Nelson, he swiftly assumed a more respectable attitude.

"Anybody gone in?" the lieutenant asked.

"No," the plain-clothes man answered. "I've been on guard, as you ordered, and nobody has showed."

"Come on," Nelson said.

Kelly and Johnny climbed out of the car after him, leaving the other man at the wheel.

The areaway was dark. It was a narrow passage between two buildings and it smelled of rats, damp brick, and decay. Nelson pulled a flashlight out of his pocket.

"Is this the place, kid?" he asked.

"Yes, sir," Johnny answered.

The lieutenant went poking into the areaway. Johnny had come along here, running from the trigger man. Somebody else had come along here, too, the lieutenant thought; the man who had left that gun here.

That damned gun! But for it he could be home, with his feet propped up on a chair, reading how the Yanks were doing in spring training. He could be in bed, sleeping his head off, the case all closed.

A brick wall marked the end of the passage. Nelson played his light over it. The wall was a part of the building on the next street. Behind him he could hear Kelly and Johnny breathing. There was a door at the left. The knob turned under his fingers.

It was a small room. There was a door on the far side, but it was locked and boarded up. The

place smelled of darkness and moisture.

"It was right there on that table," Johnny said.

It was an ordinary kitchen table. Apparently it had been here for years. The paint was gone. There was a rickety chair sitting beside it.

"Huh!" Kelly grunted. "You expect us to believe you found that gun in here?"

"I can't help what you believe," Johnny snapped. He had recovered some of his courage. "I did find it here, that's all."

It certainly was an odd place to find a gun like that, the lieutenant thought. But then it was an odd gun. Unless he was a poor judge of human nature, the kid wasn't lying, which meant that he had found the gun here. Certainly they had found Gimp Lukats in the street outside, or what was left of him. There were still bloody splatches on the sidewalk. He had seen them when he got out of the car.

"There ain't been anybody in here in years," Kelly contradicted.

"How do, you know?" Johnny challenged. "Maybe somebody was using this place as a hide-out."

Kelly sniffed.

Nelson was examining the place. The dust on the floor showed footprints and cigarette butts. "These yours?" he asked, pointing to the butts.

"I guess so," said Johnny. "I must have smoked almost a whole pack while I was waiting in here."

The kid had been here, then. The butts proved that. The important thing was—who else had been here?

Nelson went over the room carefully. The man who had left that gun here might have left some other evidence of his presence. There was a neatly wrapped package in the corner. He lifted it up on the table, turned the beam of his light on it.

A package! It was wrapped in something that looked like paper and neatly sealed. Nelson was aware that his breath was coming faster. He slit the seals, opened the paper.

"Well, I'm damned!" he said huskily.

Kelly was leaning forward to get a better look. "It's nothing but some old clothes," he said.

"They're clothes all right," Nelson said. "But if you ask me, they're not so old."

One by one he was taking the garments out of the package, shaking them before the light. The cloth was silk. No, it wasn't silk. It was something that looked like silk except that it had a slightly metallic luster. It was as soft as wool. Just running it through the fingers produced a sensation of pleasure.

There were several of the garments, a pair of trunks that would come halfway to the knees, a short-sleeved athletic shirt, a pair of shorts, all

made of this beautiful cloth. All in colors, the trunks and shirt a shade of shimmering blue. No hat, no belt. A pair of sandals made of some material that looked like glass. A pair of socks.

"A man would freeze to death dressed in them things," Kelly sniffed.

"So he would," said Nelson. "Unless he lived in a warm climate. What's this?"

He was holding up something that he had taken from the bottom of the bundle. As he looked at it, his eyes came around to Johnny. It was a belt with a holster on it. He took the weapon the lab man had given him and slipped it into the holster. It fitted perfectly.

"I guess maybe you did find that gun here," he said to Johnny. "I guess the man wrapped up his clothes and holster and forgot that he had laid the gun on the table."

His face was thoughtful.

"So what?" Kelly demanded. "What does all this prove?"

"I wish to hell I knew," Nelson answered irritably. "Come on; let's get out of here."

They followed him out to the car. "What are you going to do with me?" Johnny asked tremulously.

"I'm going to send you back to headquarters," Nelson answered. "You can plead self-defense and the D. A. won't be too hard on you."

He watched Johnny and Kelly get into the squad car and saw them drive off. His mind was lost in another problem. "Some guy from *some-where* changed clothes back there in that room," he muttered to himself. "He forgot his gun and a kid on the lam found it and used it to blow a torpedo to bits. Cripes! Here I am back where I started from—where did the gun come from?"

He was still frowning when he walked down the street. Somebody had changed clothes in that back room, somebody who had probably put on an ordinary suit and gone out and mingled with the people on the street. In spite of himself, when the thought struck him, he shivered. He began to look at every man he met, and every woman. Somewhere in this city was a man who had forgotten his gun—

There was a saloon on the corner. The lieutenant went in and bought a double Scotch and sipped it slowly. There was a problem here that didn't make him happy. The more he thought about it, the less happy he became.

"If that guy ever comes back for his clothes—" he said thoughtfully.

He went to the telephone and called headquarters and ordered that a watch be set for twenty-four hours of the day. For six months a detective was constantly on duty. But the man never came back for his clothes.

THE END.



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TRUE FIDELITY

By William M. Danner

I never knew Wally Johnston intimately, but when I ran into him on the street the other day we stopped to talk for a bit. The dealer from whom I had recently purchased a frequency-modulation radio tuner had mentioned that Wally had gotten one of the first to be received in the city. I mentioned this to him and asked what he thought of FM.

"FM's wonderful stuff, all right," he replied. "I owe a lot to it, but it's almost too realistic. I . . . well, I'm almost afraid of it."

"Afraid?"

"Yep. I got my adapter several weeks ago, in time for the first program W460 put on. I used it that night, but I haven't turned it on since. In fact, I left town that same night, and I've been back only a few days. Won't be here long, either. I've got to clean up a few odds and ends and then get back to . . . but I'm getting ahead of myself.

"Well, that first broadcast was a program by the local WPA Symphony. Realistic? Well, you've probably heard it since then. If I hadn't known it was too small, I'd have been tempted to believe the whole orchestra was in the next room, where the built-in speaker is located. But I guess the operator at the hall wasn't satisfied. He started playing around with a directional mike, and when there was a long solo violin passage he aimed it at the concert master.

"Well, that violin got closer and closer. I went out to the speaker to get the full effect, and it wasn't just the same as though the violin was in the room. It was right there, hovering in front of the speaker, so I reached out and took it from the hands that were holding it, just as the passage was finished, and—"

"Ulp!" I ulped.

"You don't believe me? It's true, all right. I've got the violin over at the house—in fact, that's one of the things I came back for. Sylvia sort of misses it. There's not much to interest a girl like Sylvia in Reno."

"Sylvia . . . Reno . . . what—"

"You ought to see her, George. If you ever get to Chicago, you'll have to come see us. We've decided to live there. She'll have her divorce in a couple more weeks."

"But . . . but *who* is Sylvia?" I managed to gasp.

"Oh. Oh, of course, you don't know. She was the concert master in the orchestra. You see, she came through, too, along with the violin."

THE HUMAN BOMB

By Stanley Woolston

George Kenllad jumped from the bomber and took a look at the ground far beneath him. His army-trained eyes located the landmarks that he knew should be there.

As he fell faster and faster George remembered the words of his orders. "Hitler will be at your objective tonight, according to our intelligence department," it had said in part. This was the objective; and he was a human bomb!

George listened to the air rush by his diver-like helmet and watched the ground come up to meet him. His fingers were not on the release of the built-in parachute in the back; instead they were clamped on a gloomy black lever.

Then the ground was just beneath him. He jerked down the lever. Jet, impassable blackness immediately sprang up about him.

With the sudden relaxation of the strain, George noticed the numbness in his legs for the first time. The suit, much like the one he had made to dive near the shore off the California coast, was almost too tight for his six-foot-two height.

Lightning calculation told him he was under the surface of Earth.

Around him he could see or feel nothing save inside the suit. Repulsing a feeling of eeriness, George remembered the times he had explored a cave near his home, and the time his light went out. Then he shrugged. He had been chosen for his psychological balance.

Taking advantage of the silence and weightlessness, George relaxed and went to sleep.

For a moment after George opened his eyes he looked about in the darkness without recognizing his location. Then he stretched until the blond patch of hair atop his head grazed the inside of the helmet. He regulated oxygen intake, then touched the watch to find the time.

Working swiftly, the young soldier pulled a rubber boat with an attached automatic gas filler from a pocket between his legs.

He turned off the black lever.

Blinding light flooded George's eyes, bright sunlight that for a full minute prevented notice of wind whistling by his helmet. When he could see he gasped, for the ocean was coming down to meet him!

After he yanked the parachute cord, the Earth took its proper place below him—about three miles away, he figured.

George waited only a few minutes in the inflated boat after landing before a rescue plane arrived and flew him to the nearest island base. George was ushered into the office of one of the Pacific-front commanders.

"Congratulations, Mr. Kenllad," the commander said warmly. "You might want to know that intelligence reports from Germany tell a Nazi city mysteriously vanished in a huge explosion. Japan will be struck by your efforts soon—look out there!" He motioned toward the lower beaches, which were wrecked.

"Your coming caused a giant tidal wave, as planned," the commander said calmly. "When you arrived in this hemisphere it caused a disturbance that will knock the Japanese islands to shreds when the wave gets there. Now tell me—how does this weapon work?"

"It's just invisibility," George explained. "An American inventor turned it over to the government. It makes a barrier between the normal world and itself, so no light waves or any other interference can bother it, not even gravity."

"And the angle through the Earth was planned mathematically, with your original speed of fall taking you through the Earth," the commander said eagerly, "you kill two birds at once. But—how does it work?"

"Simple physics, sir. Two objects can't occupy the same space at the same time. But they did!"

VALADUSIA

By Jack Bivins

"Yep," said Captain Credo, leaning back to allow the robot waiter to fill his glass. "I've seen a heap o' funny things since I been cruisin' space, and I've heard tell of a whole lot more, but I never saw nor heard o' nothin' to equal Valadusia, the Night Club Planet."

"Valadusia?" asked the youngest subaltern. "I never heard of that one. What are its co-ordinates?"

Captain Credo studied his glass for a minute. "Well, youngster, I'll tell you. Co-ordinates is fine things, no one'll gainsay that, least of all me who's been cruisin' by 'em for thirty years, but they got their place like everything else in the Universe, and that place ain't in a social confab like this one. Now if you're wantin' a mathematical discussion I reckon the navigatin' officer there'll be mighty glad to oblige."

The youngest subaltern had his mouth open to answer when a kick under the table caused him to shut it with a snap, while one of the other officers at the table dropped a coin in the robot waiter's palm and pointed to Captain Credo's glass. "What sort of a place was Valadusia?" he asked. "I haven't heard it mentioned for years."

"Well for one thing," began Captain Credo, "it was the answer to a spaceman's prayer. After a long cruise with nothin' to listen to but the drone of the rocket breeches, nothin' to see but steel bulkheads, for whoever looks at his shipmates after the first month out, and nothin' to drink but stale reservoir water, Valadusia was heaven.

"Her natural landscape was like the inside of a night club at a major spaceport, only handier. Everything grew right out of the ground and was there for the takin', no feedin' your coin to a walkin' icebox like that one." He nodded at the robot waiter.

"There was great keglike beer plants with spigots growin' right on the side, tall champagne shoots that you could break off in sections and drink right out of, and when the whiskey bushes were in bud, which was most of the time, you could pick all the little jiggers you wanted and then some.

"And talk about entertainment, the fanciest floor show you ever saw was nothin' to Valadusia under her five-colored moons in blossom time, when the nymph-mists came in off the ocean and danced, remindin' you of all the beautiful women you ever knew.

"But what got even the toughest spacebuster," continued Captain Credo, watching his glass being refilled with amber liquid, "was the music."

"Music?" asked someone, started into speech by this new development.

"Yep, music. Music from the forest of Vala-

dua, the like of which science has seen neither before nor since. Violin trees, trombone vines, trumpet rushes, and suchlike, all tuned up and orchestratin' the greatest symphonies anyone ever heard. Not a jarrin' note in the whole forest. It was wonderful."

Here he paused to refresh himself, and setting the glass down, finished sadly, "Yep, there never was any place like Valadusia, in the old days."

The youngest subaltern, who had been kept quiet so far only with great difficulty, now broke in, "Well, what happened? I never heard of the place and I don't think anyone else did, either."

Captain Credo regarded him reproachfully. "Cynicism," he said. "Cynicism and progress. Cynicism is the ruin of this world and progress was the ruin of Valadusia. It seems some feller had a swing band on one of the ships that stopped at Valadusia and some of the musical plants around heard them practicin' and adopted the new style. It spread immediately, but not amongst the whole forest. Disagreement broke out between the radicals and the reactionaries, and the only way they had o' settlin' the matter was to drown each other out. That's what they started in to do and the resultin' racket drove every livin' bein' off Valadusia."

Even the youngest subaltern was silent.

O'RYAN, THE INVINCIBLE

By T. D. Whitenack, Jr.

The gray-haired old man and the young English chap were having a "discussion." The Englishman argued that America always entered the battle too late. Naturally, the gray-haired American contested this hotly. Ordinarily, such a conversation would have meant a fight, but the cases of liquor proved that neither man could have risen of his own volition.

"Listen, youngster"—the gray-haired one speaking—"the American people are the calmest and quickest in an emergency, an' I can prove it." He pushed his face forward belligerently and stumbled through this story:

"Back in 1940, a friend of mine, name of Brien O'Ryan . . . or was it Ryan O'Brien . . . well, he stopped an invasion single-handed! Not no Nazis or Japs! No, sir. Nothin' simple. One night he's stargazin' when he sees a big dirigible fly nose-first into his back yard. He runs over to gather the hash that used to be the people, only all he can see is four cubes with lots of eyes which also see Brien O'Ryan. One of them eyes shoots a blue force beam at Brien and drags him to the port. The other three cubes push themselves into the ship with beams and drag out a machine with more beams. All of a sudden Brien can hear what these 'its' say.

"These here cubes tell him that they come from

some planet where there ain't nothing alive no more. They ain't got arms or legs, but jus' these beams which don't bend. They say their gonna kill off the whole earth, and just to show off, one of 'em nonchalantlylike, flicks a beam an' knocks over Brien's house. This makes Brien mad, 'cause farms in north Jersey is expensive.

"These guys tell Brien to show them the nearest town. Of course, this makes him madder but he thinks twice and says O. K.

"So these things follow him an' he takes 'em into the woods, which is plentiful. After a couple of hours in Class A-1 run-around, he says he's gotta sleep an' they'll go on in the morning. Then he crawls into a two-by-four cave nearby.

"Next morning, he hears a wow of a fight outside an' he sees two cubes on the ground and the other two fighting each other! Finally one takes the count an' the other starts knocking down trees. Then he sights Brien, an' out flies a beam. It picks up Brien like a baby an' it really roughs him up. Then, suddenlike, it drops him, an' there's the fourth cube on the ground. All four are dead and their mouths are all frothin' an' most of their eyes starin'.

"That there is how one American thought fast an' saved the world." The story over, the old fellow leaned back and appraised his companion.

"You're still the loser, Yank," said the Englishman. "This American was a coward because he was going to lead these invaders to civilization to save his own neck. He was merely lucky that they went insane."

"You don't get the point. Those blue beams of force I toldja about couldn't bend an'—"

Here the Englishman interrupted. "That doesn't matter. It—"

Now it was the American's turn to interrupt. "I'm tellin' ya, Brien O'Ryan knew those things couldn't touch themselves. So, ya dumb cluck, he drove 'em insane with real ingenoo-ity. He led them through just about every poison-ivy patch in north New Jersey, and they couldn't scratch."

MY WORD!

By Frank J. Smythe

"My word! What name you fella white boys stop'm along scrub?" demanded the fantastically painted, ring-nosed medicine man truculently. "Me cross along you too much."

The Malaita jungle clearing with its circle of grass huts baked in the noonday sun, but the bushy-haired cannibal didn't seem to mind it.

As director and chief interpreter of the Barth Solomon Island Expedition, I replied: "You fella black man, you cross along me, you catch'm hell from rifle belong me altogether too much." I went on to explain our reason for "stopping along scrub." We desired to learn from him, an adept,

the secret of fire-walking. Then we showed him—Bori by name—our gifts and struck a bargain.

Two days later, the necessary arrangements completed, we watched him walk the length of a forty-foot pit filled with red-hot stones, *his naked feet unharmed*. Using hyperthermy rays, we kept the boulders smoking-hot, and began our training.

Our purpose? Briefly, the Barth Foundation proposed to send an expedition to the Sun. Being unable to cope mechanically with the enormous temperatures involved, the committee decided to investigate the primitive ceremony of fire-walking, and to utilize the scientific principle involved, if any.

Well, we succeeded, and beyond our wildest dreams. But it took two years. By throwing our brains into a sixth-dimensional state of mind, we could go far beyond mere fire-walking; we could lie down in it, and later after returning to America, we could bury our bodies up to the neck in white-hot steel; in fact, we could even endure the high temperature of an electric furnace.

The solar flight took eight weeks. We "landed" in an equatorial sunspot, and leaving one man in charge of the ship, went out to explore. Shortly afterward, we discovered the fatal flaw in our sixth-dimensional asbestos suits.

Returning after eight hours, our notebooks filled with important solar observations, we were only five miles away from the ship, when we were horrified to see it vanish in a tremendous flash of flame. To figure out what had happened took only a few minutes. Most probably, the man in charge had fallen asleep, whereupon he had slipped out of the correct state of mind, with tragic results.

At first we were not worried; every man's suit was a miniature spaceship in itself, with all the necessary equipment for synthesizing matter out of pure energy. We could easily last long enough to build a new ship.

We gathered close together and having eaten, prepared to sleep. First we set up a field about us, then drew lots for guard duty. As two of the men relaxed, whose turn it was to sleep first, there were two flaming explosions that peppered us with chunks of cloth and metal, each of which in turn exploded in falling out of the field.

Thus it was that we discovered the fatal defect of sixth-dimensional protection. Inorganic matter within the field was safe, but *each living organism had to protect itself!* So, unable to stay awake forever, we were individually doomed unless a miracle happened. And miracles don't happen any more. We were the only living humans who could stand the tremendous temperature. Rescue was impossible.

So here we are, four days later, faces haggard and eyes glassy from lack of sleep. We have

agreed if no help comes in three hours to go out together in one flaming death.

Two hours and forty-five minutes later it happened. Without any advance notice the roaring, turbulent solar landscape vanished, to be instantaneously replaced by the steaming Malaitan jungle clearing where we had originally met Bori. Dazedly, from where we lay sprawled in a circle about him we stared at our erstwhile cannibal teacher.

"My word!" he exclaimed. "What name you fella white boys stop along fella Sun too long too much? Me fright like hell."

I was thunderstruck. "What name this fella gammon you sing out along me?"

Bori looked pained. "Me no gammon."

His explanation followed: "Head belong me walk about too much. Me savvee seventh-dimensional field, bring'm you fella boys back too quick too much, my word, quick like hell."

"My word!" I gasped.

TAKE-OFF

By L. M. Jensen

Basking in the warm glow from an old-fashioned fireplace the four men, slightly paunchy and well into the age of "remember when," settled themselves more comfortably into the overstuffed chairs provided by the hospitable Stargazers Club, as one of their number remarked, "Remember when even the freighter cubes had co-pilots? Now they just set the autopilot on the ultrabeam relay line and let 'er go."

"Yes," agreed another, "all this newfangled mechanical stuff is breaking up a lot of hand-craft unions."

"Talking about hand craft reminds me of the old days," said the first, gazing reflectively at the ceiling. "I don't believe I ever told you fellows the low-down on the flight that set off the Dunnivan Starlines."

"You mean the race to Alpha Centauri? That's old stuff, but if you've got a new angle, let's have it."

"Well, when P. T. Kelson discovered the Kelsondrive, you remember the Kelson Foundation decided to donate it to society. They offered a prize of ten million credits for the first space can that got to Centauri and back with certain proofs. The Big Four companies jumped in right away, and old man Dunnivan, a dark horse at the time, was the fifth entry. Kelson delivered ten drives and a set of plans to Standard Supply at 10:00 p. m. in the evening. Orders were already on file and they ran double shift all night, to get the five subassemblies delivered by noon the next day. All five entries had standardized on the minimum 'tub' for equipment needed—forty feet

long by ten feet diameter. In those days, final assembly was by hand, with a spider assembly jig. A crew of twenty experts could slap a tub together in ten hours, at top speed. The early news flash said G. I. Industries was going to use a double crew and had invited the public down for the take-off at 6:00 p. m. Old man Dunnivan growled: 'I can play the same game. Joe Bush, the big bang over at the Assembler's Union, is a pal of mine. I'll have 'im send over enough men to beat *that* time.' McDivan Contractors had just finished a big government rush job and a whole slew of men were on call from the union office. Bush agreed to furnish all the men Dunnivan wanted, and they arrived at the plant just as the subassemblies and Kelsondrive came in from Supply. Well, sir, we had that sky can assembled and off the ground in thirty minutes. She made the run to Centauri in two hours, took photographs and reading, and was back at the plant just as we got a flash on the Telesone that G. I. Industries had got their tub assembled and mere fitting her out. That prize of ten million credits and the heavy publicity got Dunnivan off 'on high,' so that, now the Consumers Board has authorized him to advertise 'The Top-list Starliner Fleet of the Universe.'

"Here, now," objected the youngest of the four-

THE END.

some, "don't give us that about 'assembled and off the ground in thirty minutes.' A man can't even weld a girder in less than five minutes and a ship that size would have sixty girder plates. We figured, back in Tulova Tech, that old man Dunnivan had sneaked some plans out and remodeled one of his other ships. When the Kelsondrive was delivered he just hooked it up and took off."

"Ben, you've been around the starliner business long enough, now, that you should know those old reaction-drive cans couldn't be remodeled. Why, the rotary-stress girders alone would mean rebuilding from the ground up, and nobody but Standard Supply had enough D-metal for the push plates. No, it was just a matter of figures. You know, figures don't lie, and old man Dunnivan was a whiz at arithmetic."

"What d'ya mean, a matter of figures?"

"Well, old man Dunnivan figured that if twenty men could assemble a space can in ten hours, then two hundred men ought to hook it up in one hour, or twelve thousand men could do it in one minute. So, he just had Joe Bush send over twelve thousand men. They set her up in one minute and we had twenty-nine minutes left to fit 'er out, and call the Telenews man to set up his nemo for the take-off."

BRASS TACKS

Leinster is back for a while anyway—but on part time. Three guesses what takes most of his time!

Dear Mr. Campbell:

When a short story takes first place in an issue of Astounding, particularly when in competition with a lead novelette by an author like Del Rey, that's an event. And when said short story is by an author who has been given up as lost forever by fandom, it fairly demands a letter. The demand has been obeyed. It is hereby announced that this particular fan rates "The Wabblers," by Murray Leinster, first in the October issue.

This story was obviously written carefully. Leinster has taken an inanimate object and endowed it with a peculiarly hellish form of life. And the reason that the robot is so convincing is that its life is a strange kind which most of us have, at one time or another, thought we've noticed in some machines. How many of you once had an antique car with a personality of its own? How many old ships seem to act intelligently? How many people have wrestled with a strong-willed stove or furnace, as in the famous essay "Furnace and I"?

Silly, of course. Utterly silly. But the beauty of the whole thing is that a hard-headed materialist is just as apt to sense this as a reader of *Unknown Worlds*.

Of course, the Wabblers was really just a clever machine. But so was that old junk heap of a Model T your neighbor had. And so are any number of products of human ingenuity.

Don't get me wrong. I don't believe that some mystical ray from space has animated our machines. I don't believe that an aura is left hanging over a well-used contraption from the owner thereof.

But I do think that Leinster's little tale is going to have an impact on a large number of less-intelligent readers—like me.

Another story that packs a punch is Van Vogt's "Second Solution," which takes second place—and here is another short story defeating the novelettes. There is a breathless excitement about some of Van Vogt's stuff that really attains a height. He has what the veteran fans remember from the "good old days," namely a sense of *newness* to his stories. It is this quality that produces stories like "Slan."

And again I say, don't get me wrong. Del



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Rey is good, but here he's up against real competition. So, although he must be content with third place, that does not mean he doesn't have a good story. On the contrary; anyone who can take the "man-goes-to-Moon" theme and write anything as good as this, *now*, really has something. I notice that the few tales based primarily on this hoary theme, in these times, are almost invariably good—perhaps because only a good author has the temerity to attempt that type of story. The writer must stand or fall on style and characterization; his plot cannot save the story alone.

In fourthth place comes George O. Smith's first effort, "QRM—Interplanetary." This is not only an excellent first attempt; it would not hurt the reputation of most of the old-timers. A bright future is predicted for George Smith. Who knows? Maybe we have another Heinlein on our hands!

Fifth: "Anachron, Inc.," by Malcolm Jameson. This is not the best story in the issue, but it is the best Jameson since "Admiral's Inspection"—and Jameson is a good writer.

Sixth, "Warrior's Age"; seventh, "The Beast." And they're still distinctly on the credit side. I thought the July issue was going to turn out the best of the year, but October has won that coveted position—with two top-notch articles and the best cover so far. That is, October has won unless you top it in the next two months. If you do, I shall begin to believe in miracles! So far, three of its stories are on the list for Hall of Fame nomination—which is a record of some kind!—Paul Carter, 156 S. University Street, Blackfoot, Idaho.

I rather felt that that entomologist was one of the kind of people who vote the straight Prohibition Party ticket.

Gentlemen:

In your August issue there is a story entitled "Impediment;" this very entertaining little tale brings to the fore the most difficult task facing the spatial explorers of the future, that or communication with alien life. Mr. Clement's Allen Kirk overlooked one very obvious possibility; or mayhaps the author did not wish to "get into that," namely the fact that for a small quantity of arsenic he no doubt could have obtained some knowledge of the propulsion mechanism of the alien spaceship. Granted that he did communicate then this possibility becomes quite evident.

Being interested in such matters it seemed very obvious that even to the entomologist this secret would have been worth no end of ethical scruples.

Our congratulations to Mr. Clement for a good

story.—R. L. Farnsworth, United States Rocket Society, Inc., 781 Riford Road, Glen Ellyn, Illinois.

Try Julius Unger, 1702 Dahill Road, Brooklyn, N. Y. He specializes in secondhand science-fiction.

Dear Mr. Campbell:

Am very anxious to obtain copies of Astounding containing E. E. Smith's "The Gray Lensman." I contacted your subscription department, but to no avail.

Perhaps you can help me. I do so want to get that set. Do you know of *anybody* that might help me?

I read Astounding with a great deal of interest and prize my copies—I have an almost complete set—above any of the others of its type.—Beatrice Gilsenberg, 6401—24th Avenue, Brooklyn, New York.

They're the same books though—and good ones!

Dear Mr. Campbell:

I was very happy to read the review of my new book "Shells and Shooting" in the current issue of Astounding, but in the meantime events took a strange turn. The firm of Modern Age Books Inc. was dissolved and does not exist any more. Some of their published titles were taken over by the Viking Press, mainly my three titles "The Lungfish and the Unicorn," "The Days of Creation," and "Bombs and Bombing." The latter, incidentally, will start out as a Viking book with its third edition, somewhat enlarged and expanded throughout and with an appendix on rocket bombs and how they function. This has caused a slight increase in price, it is now \$1.50 instead of \$1.25.

The two titles that were ready for publication but not yet published when Viking took over are my own "Shells and Shooting"—\$2.00—and Mrs. Ley's "It's Fun to be Fit," by "Olga." In short: all my published books and those that are to come are now Vikings—I hope they'll sail far.—Willy Ley.

"Sixth Column" and "With Flaming Swords" used the same basic plot—but no more than "Nerves" and "Blowups Happen"!

Dear Mr. Campbell:

For the first time in quite a long while I'm stirring out of my wonted lethargy and setting fist to typewriter for the job of talking to you about what I've seen in Astounding of late. I'll draw the starting line at "Second Stage Lensmen."

And with my accustomed reckless disregard for the dangers of a controversial subject, I shall say here and now that I've never failed to enjoy one of Doc Smith's opuses (opi?). He spins his yarns with such wholehearted, openhanded flamboyancy, throwing sweeping action at the reader in solid blocks of verbiage, that he is irresistible. Nevertheless my opinion is that, paradoxically enough, the Doc wrote a better story when he was sticking pretty much to the Solar System and its environs than he is doing with several galaxies at his command. It's a sort of inter-spatial—that's bad semantics but it conveys an impression—Law of Diminishing Returns, you might say—in any case, I look with nostalgia toward my bound volumes titled "Triplanetary" and "Spacehounds of IPC." Perhaps the reason is that the polygalactic stuff is a little too remote, a trifle too rarefied, for ordinary readers like this one to get their teeth into in a truly satisfying way. For most s-f readers, the Solar System is comparable to their own back yard, and a radius inclosing Proxima Centauri is still inside the city limits. But even such a relatively limited space as this allows an almost infinite field for imagination and ingenuity in story conception, without the necessity of resorting to the trackless wastes of intergalactic emptiness—usually more for the purpose of impressing the reader with the story's "scope" than anything else.

Now to clean house. This month's bouquet of skunk cabbage goes to "With Flaming Swords" as a weak and obvious plagiarism of "If This Goes On—" I'm surprised it got past a nose as capable as yours. Another angle on it was lifted from "Sixth Column"—the nimbus effect, that is. Ho, hum—

Stories that weren't so good as they should have been, considering authors and potential situations: "The Barrier," "Waldo," "Secret Unattainable," "Breakdown," "There Shall Be Darkness."

Finally; the best—I nearly said the only—stories in several months number only two: "Nerves" and "Beyond This Horizon." In the former my suspicion is that the author was more interested in the medical than the atomic side—and the story might have been even better had he stuck to it altogether, for it's rare in s-f. As a story it carried conviction and came so close to possibility that it bothered me. Best in that line since "Blowups Happen." The latter story had but one flaw—the resort to out-and-out mysticism at the end. O. K. in *Unknown* perhaps, but it didn't fit quite comfortably here. "Waldo" was worse in the same respect—can't account for it! But MacDonald's characterization is outstanding, his humor is effective, his sound sense of incident makes a whale of a good yarn. I'm looking forward to future issues.—Charles H. Chandler, 920 College Avenue, Wooster, Ohio.

Smith was not referring to contraterrene matter, which is positive matter with inverted electrical polarities; he was talking about matter with negative mass, a completely different thing.

Dear Sir:

Liked Stewart's "Collision Orbit"—especially for the problems of handling "seetee" which it suggests. However, think Stewart and Smith should get together. If, as Smith says, to predict the reactions of C. T. (or Smith's negative matter one substitutes negative signs in the reactions of terrene matter, one would predict that C. T. would be repelled by a magnet (leaving residual or induced polarity out of the discussion).

If that were the case, the inverse square law would make manipulation much simpler, since the only remaining difficulty would be that of pushing an unwieldy object.

There were a couple of minor errors in the last issue—reminded me of the little black flecks one gets in precipitates if one insists on smoking while working. Stewart (page 95), uses "seetee refiner" when he means peegee.

Hubbard in "Space Can," speaks of "volitizing metal." This is apparently derived from *volition*, instead of *volatile*. We know the metal is volatilizing (or evaporating or subliming), though Hubbard might turn the last into sublimating—

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we don't know the state of its inner being.—Harold Wooster, 2005 Madison Street, Madison, Wisconsin.

Such a change in light speed as you propose would entail a collateral and equal change in all other phenomena—and cancel out, in effect, the change in light speed.

Dear Mr. Campbell:

I am impelled to write my first letter to you by the very unanimity with which Anson MacDonald's "Beyond This Horizon" was voted into first place in the Analytical Lab for June.

I am not an iconoclast. I would not attack any winner to attain the dubious distinction of being different, but I wasn't impressed by the story at all. And, when I found that it rang bells all over the place, I was astounded. That is the object of the game, I know, but haven't we rules defining the methods that may be employed?

I have asked myself why the story didn't—well, tinkle a baby bell somewhere. The economic set-up was interesting, the biological dissertation, enlightening, but the vehicle that carried these bits was back in the travois class—BTW—before the wheel. That must be the explanation—a little sure-fire Western stuff, an incipient revolution, a little "boy meets girl," stir till smooth, and "Eureka," "Presto," or perhaps "Bisquick." That Twenty-niner should not have appeared. He was too big to be treated so briefly. The search for proof of the Hereafter was, at best, abortive. The rest of the story—well, I imagine that it is clear that, to me—to me, I emphasize—the story was a dud.

Do you think it would console Mr. MacDonald a little to know that I thought Aldous Huxley's "Brave New World" something of a dud, too?

All this should not wither one leaf of the laurel that should grace the brow of an editor who can gauge his readers' tastes as accurately as the Lab attests that you can.

I would have rated Van Vogt's "Co-operate or Else" first—going away.

The following you might class, though I do not, as:

PROBABILITY ZERO.

Halley's Comet came late to its appointment with Cowell and Commelin, and did not stay to apologize or to explain its tardiness. The explanation that I am about to give in its behalf, is simple and unbelievable.

C. & C.'s mathematics may be presumed to be sound and accurate, their figures correctly derived from the data at their disposal, but their data was only as correct as it is possible to be with one minor error. That error is contained in the as-

sumption that the speed of light is a constant; it isn't.

I know it is said to be a constant but a man small enough to have five of our inches seem to him to be fifty A. U. would be equally certain and equally correct in his conception of the speed of a bullet from our Springfield .30-06.

Light has been clocked over that "five inches" from here to Jupiter and back, but even that result it must be admitted is only an average for the distance. Michelson started with fresh light and bounced that around, killing who knows how much of its speed in the bouncing. It would have been a fitting complement to his experiment if Michelson could have introduced the light from Andromeda into his gadget and measured the speed of light that had been traveling a while.

The speed of light as a constant has worked out in our mathematics because there are other constants that make it a constant; the distances to objects are constant or nearly so, the speed of those objects is constant, or the distances are small enough to fall within our five inches. Within our limits, it is said, the speed of light is a constant, but who can say how long it takes light to travel a light-year?

A comet is one thing that will not conform, it is, perhaps, the one thing that varies enough in distance to demonstrate the error of this concept.

Short's Hypothesis, which, stated briefly, reads: "Light, however primitive it may be, is not exempt from obedience to the accepted laws of nature, and will, as all things must, succumb to the strains, the drags, and the dissipations to which its very existence subjects it, will slow down and ultimately, stop"—does explain the behavior of comets.

Halley's Comet will serve as an example. It seemed to have disappeared in 1858 at a point X, actually it was immeasurably beyond X because its light was slowing down, quite aside from the drag put on it by its receding source. The farther out the comet goes the greater will be the distance between the actual and the apparent source of the light. It follows then that its orbit is longer than was calculated. So it runs out its longer orbit and starts back. Since we cannot follow it to the end we miss the treat of seeing the same comet in two different places as the real source coming in passes the apparent source going out.

Now in 1909, Halley's Comet is seen before the comet is there, because it is building its image in front of it by pushing its light ahead of it. As the light from it slows down, the following light, closer to its source and therefore, faster, catches up and strengthens its forerunner until the whole is strong enough to be seen before the comet itself is there. Am I being obscure?

In other words, the comet is 3.03 days late all the time because of its longer orbit, its apparent position as determined by its light is, we'll say, only one day late. As the comet runs toward the Sun, its apparent position retreats toward its real position as the speed of its light mounts toward that speed we consider the constant. When the speed of its light gets to our constant speed the apparent and real position of Halley's Comet are identical in our consideration and it runs through perihelion 3.03 days late.

According to this hypothesis the time between appearance and perihelion should be considerably longer than the time between perihelion and disappearance. Was it?

I seem to hear, as from a great distance, a rising murmur of voices and I am sure some of them are saying that a slackening of velocity would show up in a Doppler shift to the red.

While it is true that a source receding at one thousand miles per second would appear to produce light with a velocity of one hundred eighty-five thousand miles per second relative to the observer, the accompanying red shift is not a measure of the loss of velocity in light but a measure of the receding velocity of the source. That difference is of no importance if the speed of light is constant, but it becomes very important the moment one considers the idea of light slowing down. Then, if the source continues to recede at one thousand miles a second long enough for its light to slow down to one hundred thousand miles per second, the red shift would continue to measure that one-thousand-mile receding velocity and nothing else.

The red shift will continue to *measure* although itself is not concerned with speed but with wave length only. If the wave length of light is increased, the wave lengths of its components are increased and the spectrum shifts toward the red.

How is it increased? The source drops one end, moves on before the wave is entirely emitted and stretches it against light's own inertia. You know that a freight train being pulled away from you is longer than one being backed toward you, because you have evidence. When the train starts from the rest, you can hear the clicks run down the train as each drawbar is extended to its limit; when the engine backs up, you can see the cars close on one another. That is a very rough example, to be sure, but it does illustrate the behavior of light waves from a receding and approaching source.

Can it be that you are willing to exempt light from the operation of accepted laws? If you are, show me your evidence.

What do you think?—A. T. Short, 1053 Prospect Street, Westfield, New Jersey.

THE END.

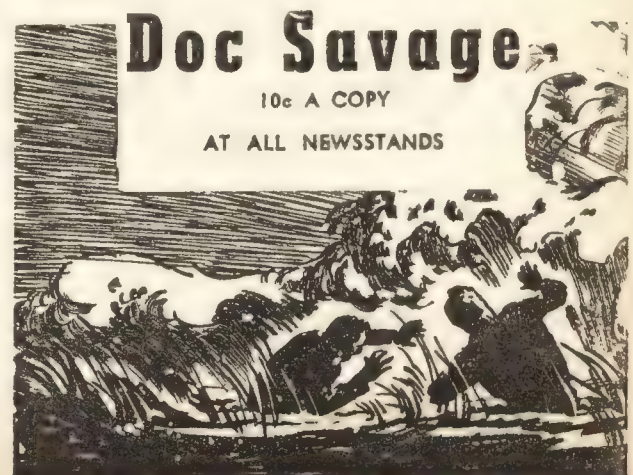


Donkey Sam BLEW UP THE WORLD—

or thought he did, when he threw that bottle of whiskey at a black rock in the desert.

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PIGGY BANK

By Lewis Padgett

● He was a beautiful robot—all gold plated, and studded with sparkling diamonds. And he couldn't do a thing—not a thing but run away. At that, however, he was damnably skillful—so damnably skillful that he damned the man who owned him—

Illustrated by Kramer

Ballard's diamonds were being stolen as fast as he could make new ones. Insurance companies had long since given him up as a bad risk. Detective agencies were glad to offer their services,

at a high fee, but, since the diamonds were invariably stolen, anyhow, this was simply more money down the drain. It couldn't keep up. Ballard's fortune was founded on diamonds,

and the value of gems increases in inverse proportion to their quantity and availability. In ten years or so, at the present rate of theft, unflawed blue-whites would be almost worthless.

"So what I need is a perfect safe," Ballard said, sipping a liqueur. He stared across the table at Joe Gunther, who only smiled.

"Sure," Gunther said. "Well?"

"You're a technician. Figure it out. What do I pay you for?"

"You pay me for making diamonds and not telling anybody I can make 'em."

"I hate lazy people," Ballard remarked. "You graduated top man at the Institute in 1990. What have you done since then?"

"Practiced hedonism," Gunther said. "Why should I work my head off when I can get everything I want just by making diamonds for you? What does any man want? Security, freedom, a chance to indulge his whims. I got that. Just by finding a formula for the Philosopher's Stone. Too bad Cain never guessed the potentialities of his patent. Too bad for him; lucky for me."

"Shut up," Ballard said with soft intensity.

Gunther grinned and glanced around the gigantic dining hall. "Nobody can hear us." He was a little drunk. A lock of lank dark hair fell over his forehead; his thin face looked sharp and mocking. "Besides, I like to talk. It makes me realize I'm as much of a big shot as you are. Swell stuff for my soul."

"Then talk. When you're quite finished, I'll get on with what I've got to say."

Gunther drank brandy. "I'm a hedonist, and I've got a high I. Q. When I graduated, I looked around for the best way of supporting Joe Gunther without working. Building something new from scratch wastes time. The best system is to find a structure already built, and add something more. Ergo, the Patent Office. I spent two years going through the files, looking for pay dirt. I found it in Cain's formula. He didn't know what it was. A theory about thermodynamics—he thought. Never

realized he could make diamonds simply by developing the idea a bit. So," Gunther finished, "for twenty years that formula has been buried in the Patent Office, and I found it. And sold it to you, on condition that I keep my mouth shut and let the world believe your diamonds were real."

"Finished?" Ballard asked.

"Sure."

"Why do you recapitulate the obvious on an average of once a month?"

"To keep you reminded," Gunther said. "You'd kill me if you dared. Then your secret would be quite safe. The way I figure it, ever so often you work out a method of getting rid of me, and it biases your judgment. You're apt to go off half-cocked, get me killed, and then realize your mistake. When I'm dead, the formula will be made public, and everybody can make diamonds. Where'll you be, then?"

Ballard shifted his bulky body, half closing his eyes and clasp ing large, well-shaped hands behind his neck. He regarded Gunther coolly.

"Symbiosis," he said. "You'll keep your mouth shut, because diamonds are your security, too. Credits, currency, bonds—they're all apt to become worthless under current economic conditions. But diamonds are rare. I want to keep 'em that way. I've got to stop these thefts."

"If one man builds a safe, another man can crack it. You know the history of that. In the old days, somebody invented a combination lock. Right away, somebody else figured out the answer—listening to the fall of the tumblers. Tumblers were made noiseless; then a crook used a stethoscope. The answer to that was a time lock. Nitroglycerin canceled that. Stronger metals were used, and precision jointures. O. K.—thermite. One guy used to take off the dial, slip a piece of carbon paper under it, replace it—and come back

a day later, after the combination had been scratched on the carbon. Today it's X rays, and so forth."

"A perfect safe can be made," Ballard said.

"How?"

"There are two methods. One, lock the diamonds in an absolutely uncrackable safe."

"No such thing."

"Two, leave the diamonds in plain sight, guarded by men who never take their eyes from them."

"You tried that, too. It didn't work. The men were gassed once. The second time, a ringer got in, disguised as one of the detectives."

Ballard ate an olive. "When I was a kid, I had a piggy bank made of glass. I could see the coins, but I couldn't get 'em out without breaking the pig. That's what I want. Only—I want a pig who can run."

Gunther looked up, his eyes suddenly sharp. "Eh?"

"A pig who's conditioned to flight—self-preservation. One who specializes in the art of running away. Animals do it—herbivores chiefly. There's an African deer that reacts to movement before it's made. Better than split-second reaction. A fox is another example. Can a man catch a fox?"

"He'd use dogs and horses."

"Uh-huh. So foxes run through herds of sheep, and cross water, to spoil the scent. My pig must do that, too."

"You're talking about a robot," Gunther said.

"The Metalman people will make us one to order, with the radioatomic type of brain. A seven-foot robot, studded with diamonds; conditioned to running away. An intelligent robot."

Gunther rubbed his jaw. "Lovely. Except for one thing. The intelligence must be limited. Metalman have made robots of human mind-power, but each one covers a city block. Mobility's lost as intelligence increases. They haven't yet found a substitute for the colloid brain.

However—" He stared at his fingernails. "Yeah. It could be done. The robot must be conditioned in one line only, self-preservation. It must be able to build logically from that motivation, and that's all it needs."

"Would that be enough?"

"Yes, because a robot's logical. You can drive a seal or a deer into a trap. Or a tiger. The tiger hears the beaters behind him, and runs from them. To him, that's the only danger he knows, till he falls in the pit that's been dug for him. A fox might be smarter. He might think of both the menace behind him and the one in front. A robot—he wouldn't stampede blindly. If he was driven toward a cul-de-sac, he'd use logic and wonder what was up that blind alley."

"And escape?"

"He'd have split-second—in fact, instantaneous reaction. Radioatomic brains think fast. You've set me a beautiful problem, Bruce, but I think it can be done. A diamond-studded robot, parading around here—psychologically, it's right up your alley."

Ballard shrugged. "I like ostentation. As a kid I had a hell of an inferiority complex. I'm compensating for that now. Why do you suppose I built the castle? It's a showplace. I need an army of servants to keep it going. The worst thing I can imagine is being a nonentity."

"Which in your mind is synonymous with poverty," Gunther murmured. "You're essentially imitative, Bruce. You built your economic empire through imitation. I don't think you've ever had an original thought in your life."

"What about this robot?"

"Induction—simple addition. You figured out your requirements and added them up. The result is a diamond-studded robot conditioned to flight." Gunther hesitated. "Flight isn't enough. It's got to be escape—self-

preservation. Sometimes offense is the best defense. The robot should run as long as that's feasible and logical—and then try escape in other ways."

"You mean giving him armament?"

"Uh-huh. If we started that, we couldn't stop. We want a mobile unit, not a tank. The robot's intelligence, based on flight logic, should enable him to make use of whatever he needs, the tools that are at hand. Squirt his brain full of the basic patterns, and he'll do the rest. I'll get at it immediately."

Ballard wiped his lips with a napkin. "Good."

Gunther got up. "I'm not really signing my death warrant, you know," he said conversationally. "If you have a theft-proof safe like the robot, you won't need me to make more diamonds. There'll be enough on the robot to satisfy all your needs till you die. If you kill me, then, your diamond monopoly's safe—nobody can make them but me. However, I wouldn't make that robot without taking precautions. The Patent Office formula isn't listed under the name of Cain, and it isn't really a thermodynamic principle."

"Naturally," Ballard said. "I checked on that, without telling my investigators exactly what I was after. The patent number is your secret."

"And I'm safe as long as it remains my secret. It will, until I die. Then it'll be broadcast, and a lot of people will have their suspicions confirmed. There's a pretty widespread rumor that your diamonds are artificial, but nobody can prove it. I know one guy who'd like to."

"Ffoulkes?"

"Barney Ffoulkes, of Mercantile Alloys. He hates your insides as much as you hate his. But you're a bigger man than he is, just now. Yeah, Ffoulkes would love to smash you, Bruce."

"Get busy on the robot," Bal-

lard said, rising. "See if you can finish it before there's another robbery."

Gunther's grin was sardonic. Ballard didn't smile, but the skin crinkled around his eyes. The two men understood each other thoroughly—which was probably the reason they were both still alive.

"Metalman, eh?" Barney Ffoulkes said to his chief of staff, Dangerfield. "Making a diamond-studded robot for Ballard, eh? Bloody show-off!"

Dangerfield didn't say anything.

"How big?"

"Seven feet, perhaps."

"And studded—wonder how thickly? Ballard's going to tie up a lot of rocks in that sandwich man. Wonder if he'll have the diamonds spell out, 'Hurrah for Bruce Ballard'?" Ffoulkes got up from his desk and buzzed around the room like a mosquito, a ginger-haired, partially bald little man with a wrinkled rat-trap face, soured in brine. "Get an offensive ready. Revise it daily. Chart a complete economic front, so we can jump on Ballard from all directions when we get the tip-off."

Dangerfield still said nothing, but his eyebrows lifted inquiringly in the sallow, blank face.

Ffoulkes scuttled toward him, twitching. "Do I have to make a blueprint? Whenever we've had Ballard in a spot before, he's wriggled out—insurance companies, loan flotations, more diamonds. No insurance company will handle him now. His diamonds can't be inexhaustible, unless they're artificial. If they are, he'll find it harder and harder to float a loan. See?"

Dangerfield nodded dubiously.

"Hm-m-m. He'll have a lot of gems tied up in this robot. It'll be stolen, naturally. And that time we'll strike."

Dangerfield pursed his lips.

"O. K.," Ffoulkes said. "So it may not work. It hasn't worked before. But in this game



the whole trick is to keep hammering till the wall's breached. This time may be the charm. If we can once catch Ballard insolvent, he'll go under. Anyhow, we've got to try. Prepare an offensive. Stocks, bonds, utilities, agricultures, ores—everything. What we want to do is force Ballard to buy on margin when he can't cover. Meantime, be sure our protection's paid. Hand the boys a bonus."

Dangerfield made a circle with thumb and forefinger. Ffoulkes chuckled nastily as his chief of staff went out.

It was a time of booms and panics, of unstable economics and utterly crazy variables. Man hours, as usual, remained the base. But what in theory seemed effective in practice was somewhat different. Man hours, fed into the hopper of the social culture, emerged in fantastic

forms. Science had done that—science enslaved.

The strangle hold of the robber barons was still strong. Each one wanted a monopoly, but, because they were all at war, a species of toppling chaos was the result. They tried desperately to keep their own ships afloat while sinking the enemy fleet. Science and government were handicapped by the Powers, which were really industrial empires, completely self-contained if not self-supporting units. Their semanticists and propagandists worked on the people, lading out soothing sirup. All would be well later—when Ballard, or Ffoulkes, or All-Steel, or Unlimited Power, took over. Meantime—

Meantime the technicians of the robber barons, well subsidized, kept throwing monkey wrenches into the machinery. It was the time preceding the Scientific Revolution, and akin

to the Industrial Revolution in its rapid shifting of economic values. All-Steel's credit was based chiefly on the Hallwell Process. Unlimited Power's scientists discovered a better, more effective method that scrapped the Hallwell Process. Result, the bottom fell out of All-Steel, and there was a brief period of frantic readjustment, during which All-Steel yanked certain secret patents out into the open and utilized them, playing hell with Ffoulkes, whose Gatun Bond Issue was based on a law of supply and demand which was automatically revised by the new All-Steel patents. Meantime each company was trying to catch the others with their pants down. Each one wanted to be master. When that enviable day arrived, the economic mess would settle, it was hoped, under the central control, and there would be Utopia.

The structure grew like the

Tower of Babel. It couldn't stop—naturally. Crime kept pace with it.

Because crime was a handy weapon. The old protection racket had been revived. All-Steel would pay the Donner gang plenty to keep their hands off All-Steel interests. If the Donner boys happened to concentrate on robberies that would weaken Ffoulkes or Ballard or Unlimited Power—fine! Enough spectacular thefts would lead to a panic during which enemy stocks would drop to the bottom, one asked, nothing bid.

And if a man went down, he was lost. His holdings would go to the wolves, and he himself would be too potentially dangerous ever to be allowed power again. *Vae victis!*

But diamonds were increasingly rare—and so, till now, Bruce Ballard's empire had been safe.

The robot was sexless, but gave the impression of masculinity. Neither Ballard nor Gunther ever used the neuter pronoun in reference to the creature. Metalman Products had done their usual satisfactory job, and Gunther improved on it.

So Argus came to the castle, for final conditioning. Rather surprisingly, the robot was not vulgarly ostentatious. He was functional, a towering, symmetrical figure of gold, studded with diamonds. He was patterned on an armored knight, seven feet tall, with a cuirass of bright gold, golden greaves, golden gauntlets that looked clumsy but which contained remarkably sensitive nerve-endings. His eyes had diamond lenses, specially chosen for their refractive powers, and, logically, Ballard called him Argus.

He was blazingly beautiful, a figure out of myth. In a bright light he resembled Apollo more than Argus. He was a god come to Earth, the shower of gold that Danae saw.

Gunther sweated over the con-

ditioning process. He worked in a maze of psychological charts, based on the mentalities of the creatures that lived by flight. Automatic reactions had to have voluntary cut-offs, controlled by logic, when reasoning power took over—reasoning power based on the flight-instinct. Self-preservation was the prime factor. The robot had it in a sufficient amount.

"So he can't be caught," Ballard said, regarding Argus.

Gunther grunted. "How? He automatically adjusts to the most logical solution, and readjusts instantly to any variable. Logic and superswift reactions make him a perfect flight machine."

"You've implanted the routine?"

"Sure. Twice a day he makes his round of the castle. He won't leave the castle for any reason—which is a safeguard. If crooks could lure Argus outside, they *might* set an ingenious trap. But even if they captured the castle, they couldn't hold it long enough to immobilize Argus. What have you got burglar alarms for?"

"You're sure the tour's a good idea?"

"You wanted it. Once in the afternoon, once at night—so Argus could show off to the guests. If he meets danger during his round, he'll adjust to it."

Ballard fingered the diamonds on the robot's cuirass. "I'm still not sure about—sabotage."

"Diamonds are pretty tough. They'll resist a lot of heat. And under the gold plate is a casing that'll resist fire and acid—not forever, but long enough to give Argus his chance. The point is that Argus can't be immobilized long enough to let himself be destroyed. Sure, you could play a flame thrower on him—but for how long? One second, and then he'd scam."

"If he could. What about cornering him?"

"He won't go into corners if he can help it. And his radio-atomic brain is *good!* He's a

thinking machine devoted to one purpose: self-preservation."

"Hm-m-m."

"And he's strong," Gunther said. "Don't forget that. It's important. He can rip metal, if he can get leverage. He's not a superdooper, of course—if he were, he couldn't be mobile. He's subject to normal physical laws. But he is beautifully adaptive; he's very strong; he has superswift reactive powers; he's not too vulnerable. And we're the only guys who can immobilize Argus."

"That helps," Ballard said.

Gunther shrugged. "Might as well start. The robot's ready." He jerked a wire free from the golden helm. "It takes a minute or so for the automatic controls to take over. Now—"

The immense figure stirred. On light, rubberoid soles, it moved away, so quickly that its legs almost blurred. Then it stood motionless once more.

"We were too close," Gunther said, licking his lips. "He reacts to the vibrations sent out by our brains. There's your piggy bank, Bruce!"

A little smile twisted Ballard's lips. "Yeah. Let's see—" He walked toward the robot. Argus slid away quietly.

"Try the combination," Gunther suggested.

Ballard said softly, almost whispering, "All is not gold that glitters." He approached the robot again, but it reacted by racing noiselessly into a distant corner. Before Ballard could say anything, Gunther murmured, "Say it louder."

"Suppose someone overhears? That's—"

"So what? You'll change the key phrase, and when you do, you can get close enough to Argus to whisper it."

"All is not gold that glitters." Ballard's voice rose. This time, when he went to the robot, the giant figure did not stir.

Ballard pressed a concealed stud in the golden helm and

murmured, "These are pearls that were his eyes." He touched the button again, and the robot fled into another corner. "Uh-huh. It works, all right."

"Don't give him such obvious combinations," Gunther suggested. "Suppose one of your guests starts quoting Shakespeare? Mix up your quotations."

Ballard tried again. "What light through yonder window breaks I come here to bury Caesar now is the time for all good men."

"Nobody's going to say that by accident," Gunther remarked. "Fair enough. Now I'm going out and enjoy myself. I need relaxation. Write me a check."

"How much?"

"Couple of thousand. I'll tele-call you if I need more."

"What about testing the robot?"

"Go ahead and test him. You won't find anything wrong."

"Well, take your guards."

Gunther grinned sardonically and headed for the door.

An hour later the air taxi grounded atop a New York skyscraper. Gunther emerged, flanked by two husky protectors. Ballard was running no risks of having his colleague abducted by a rival. As Gunther paid the air cabman, the detectives glanced at their wrist spotters and punched the red button set into each case. They reported thus, every five minutes, that all was well. One of Ballard's control centers in New York received the signals and learned that all was well—that there was no need to send out a rush rescue squad. It was complicated, but effective. No one else could use the spotters, for a new code was used each day. This time the key ran: First hour, report every five minutes; second hour, every eight minutes; third hour, every six minutes. And, at the first hint of danger, the detectives could instantly send in an alarm.

But this time it didn't work

out successfully. When the three men got into the elevator, Gunther said, "The Fountain Room," and licked his lips in anticipation. The door swung shut, and as the elevator started its breakneck race down, anæsthetic gas flooded the little cubicle. One of the detectives managed to press the alarm warning on his spotter, but he was unconscious before the car slowed at the basement. Gunther didn't even realize he was being gassed before he lost consciousness.

He woke up fettered securely to a metal chair. The room was windowless, and a spotlight was focused on Gunther's face. He manipulated sticky eyelids, wondering how long he had been out. Scowling, he twisted his arm so that his wrist watch was visible.

Two men loomed, shadowy beyond the lamp. One wore a physician's white garment. The other was a little man, ginger-haired, with a hard rat trap of a face.

"Hi, Ffoulkes," Gunther said. "You saved me a hangover."

The little man chuckled. "Well, we've done it at last. Lord knows I've been trying long enough to get you away from Ballard's watchdogs."

"What day is this?"

"Wednesday. You've been unconscious for about twenty hours."

Gunther frowned. "Well, start talking."

"I'll do that, first, if you like. Are Ballard's diamonds artificial?"

"Don't you wish you knew?"

"I'll offer you about anything you want if you'll cross up Ballard."

"I wouldn't dare," Gunther said candidly. "You wouldn't have to keep your word. It'd be more logical for you to kill me, after I'd talked."

"Then we'll have to use scopolamin."

"It won't work. I've been immunized."

"Try it, anyway. Lester!"

The white-gowned man came forward and put a hypodermic deftly into Gunther's arm. After a while he shrugged.

"Complete immunization. Scop is no good, Mr. Ffoulkes."

Gunther smiled. "Well?"

"Suppose I try torture?"

"I don't think you'd dare. Torture and murder are capital crimes."

The little man moved nervously around the room. "Does Ballard himself know how to make the diamonds? Or are you the only one?"

"The Blue Fairy makes 'em," Gunther said. "She's got a magic wand."

"I see. Well, I won't try torture yet. I'll use duress. You'll have plenty to eat and drink. But you'll stay here till you talk. It'll get rather dull after a month or so."

Gunther didn't answer, and the two men went out. An hour passed, and another.

The white-gowned physician brought in a tray and deftly fed the prisoner. After he had vanished, Gunther looked at his watch again. A worried frown showed on his forehead.

He grew steadily more nervous.

The watch read 9:15 when another meal was served. This time Gunther waited till the physician had left, and then recovered the fork he had managed to secrete in his sleeve. He hoped its absence wouldn't be noticed immediately. A few minutes was all he wanted, for Gunther knew the construction of these electromagnetic prison chairs. If he could short circuit the current—

It wasn't too difficult, even though Gunther's arms were prisoned by metal clamps. He knew where the wires were. After a bit, there was a crackling flash, and Gunther swore at the pain in his seared fingertips. But the clamps slid free from his arms and legs.

He stood up, looking again at his wrist watch. Scowling, he prowled around the room till he found what he wanted—the window buttons. As he pressed these, panels in the blank walls slid aside, revealing the lighted towers of New York.

Gunther glanced at the door warily. He opened a window and peered down. The height as dizzying, but a ledge provided easy egress. Gunther eased himself over the sill and slid along to his right till he reached another window.

It was locked. He looked down, hesitating. There was another ledge below, but he wasn't sure he could make it. Instead, he went on to the next window.

Locked.

But the one after that was open. Gunther peered into the dimness. He could make out a bulky desk, and the glimmer of a telepanel. Sighing with relief, he crawled into the office, with another glance at his watch.

He went directly to the televisor and fingered a number. When a man's face appeared on the panel, Gunther merely said, "Reporting. O. K.," and broke the connection. His consciousness recorded a tiny click.

He called Ballard then, but the castle's secretary answered.

"Where's Ballard?"

"Not here, sir. Can I—"

Gunther went white, remembering the click he had heard. He broke the connection experi-

mentally, and heard it again. Ballard—

"Hell!" Gunther said under his breath. He returned to the window, crawled out, hung by his hands, and let himself drop. He almost missed the ledge one story below. Skin ripped from his fingertips as he fought for a grip.

But he got it at last. He kicked his way through the window before him and dived in, glass showering. No televisor here. But there was a door dimly defined in the wall.

Gunther opened it, finding what he wanted on the other side. He switched on a lamp, riffling through the drawers till he was certain that this office wasn't another plant. After that, he



used the televisior, fingering the same number he had called before.

There was no answer.

"Uh-huh," Gunther said, and made another call.

He had just broken the connection when a man in a surgeon's gown came in and shot him through the head.

The man who looked like Ffoulkes scrubbed make-up from his face. He glanced up when the physician entered.

"O. K.?"

"Yeah. Let's go."

"Did they trace Gunther's call?"

"That's not our pie. Come on."

A gray-haired man, tied securely in his chair, swore as the hypodermic pierced his skin. Ballard waited a minute and then jerked his head at the two guards behind him.

"Get out."

They obeyed. Ballard turned to the prisoner.

"Gunther was supposed to report to you every day. If he failed, you were told to release a certain message he gave you. Where's that message?"

"Where's Gunther?" the gray-haired man said. His voice was thick, the words slurring as the scopolamin began its work.

"Gunther's dead. I arranged matters so that he'd telecall you on a tapped beam. I traced the call. Now where's the message?"

It took a little while, but at last Ballard unscrewed a hollow table leg and took out a thin roll of recording wire tape, carefully sealed.

"Know what's in this?"

"No. No. No—"

Ballard went to the door. "Kill him," he said to the guards, and waited till he heard the muffled shot. Then he sighed with heartfelt relief.

He was, at last, impregnable.

Barney Ffoulkes called his chief of staff. "I hear Ballard's

robot is finished. Clamp down. Put the squeeze on him. Force him to liquidate. Tell the Donner boys about the robot."

Dangerfield's face showed no expression as he made thumb and forefinger into a circle.

What Gunther had called Cain's thermodynamic patent was in reality something different, as the wire tape showed. Actually it was "McNamara, Torsion Process, Patent No. R-735-V-22." Ballard recorded that in his capacious memory and looked up the patent himself. This time he wished to share the secret with no one. He was enough of a scientist, he thought, to be able to work out the details himself. Besides, Gunther's machines for diamond-making were already set up in the castle laboratory.

Ballard immediately ran into an annoying, though not serious, hitch. The original McNamara process was not designed to create artificial diamonds. It was a method of developing certain electronic alterations in matter, and through torsion changing the physical structure involved. Gunther had taken McNamara's system, applied it to carbon, and made diamonds.

Ballard felt certain he could do the same, but it would take time. As a matter of fact, it took exactly two weeks. Once the new application was discovered, the rest was incredibly easy. Ballard started to make diamonds.

There was one other difficulty. The annealing process took nearly a month. If the carbon was removed from the chamber before that time, it would be merely carbon. In the past, Gunther had kept a supply of diamonds on hand for emergencies; that supply was depleted now, most of the gems having gone to cover the golden robot. Ballard sat back and shrugged. In a month—

Long before that Ffoulkes struck. He clamped down with

both hands. Propaganda, whispering campaigns, releasing of new patents that rendered Ballard's worthless—all the weapons of economic warfare were unleashed against the diamond king. Holdings depreciated. There were strikes in Ballard's mines and factories. An unexpected civil war knocked the bottom out of certain African stocks he held. Word began to go around that the Ballard empire was collapsing.

Margin was the answer—that, and security. Diamonds were excellent collateral. Ballard used up his small hoard lavishly, trying to plug the leaks in the dike, buying on margin, using the tactics that had always succeeded for him in the past. His obvious confidence stemmed the tide for a while. Not for long. Ffoulkes kept hitting, hard and fast.

By the end of the month, Ballard knew, he would have all the diamonds he needed, and could re-establish his credit. In the meantime—

The Donner gang tried to steal Argus. They didn't know the robot's capabilities. Argus fled from room to room, clanging an alarm, ignoring bullets, until the Donners decided to give it up as a bad job and escape. But by that time the police had arrived, and they failed.

Ballard had been too busy pulling strings to enjoy his golden plaything. The advent of the Donners gave him a new idea. It would be a shame to mar the robot, but the diamonds could be replaced later. And what good was a bank except for emergencies?

Ballard found a canvas bag and went into the robot's room, locking the doors behind him. Argus stood motionless in a corner, his diamond eyes inscrutable. Ballard took out a tiny chisel, shook his head rather sadly, and said in a firm voice, "What light through yonder window breaks—"

He finished the scrambled quotation and walked toward the robot. Argus silently went away.

Ballard moved his shoulders impatiently. He repeated the key sentence louder. How many decibels were necessary? A good many—

Argus still ran away. This time Ballard yelled the key at the top of his voice.

And the robot's flight mechanism continued to operate. The automatic alarm began to work. The siren screech hooted deafeningly through the room.

Ballard noticed that a little envelope was protruding from a slot in Argus' cuirass. Automatically he reached for it—and the robot fled.

Ballard lost his temper and began to follow Argus around the room. The robot kept at a safe distance. Eventually Argus, since he was untiring, won the race. Panting, Ballard unlocked the door and rang for help. The alarm siren died.

When servants came, Ballard ordered them to surround the robot. The circle of humanity closed in gradually, until Argus, unable to retreat within himself, chose the most logical solution and walked through the living wall, brushing the servants aside casually. He continued toward the door and through it, in a crackling of splintered mahogany panels. Ballard looked after the retreating figure without saying anything.

The envelope had been brushed free by the encounter with the door, and Ballard picked it up. The brief note inside read:

Dear Bruce:

I'm taking no chances. Unless I make a certain adjustment on Argus daily, he reverts to a different code phrase from the one you give him. Since I'm the only guy who knows that code, you'll have a sweet time catching Argus in case you cut my throat. Honesty is the best policy.

Love,

Joe Gunther.

Ballard tore the note into tiny fragments. He dismissed the servants and followed the robot, who had become immobile in the next room.

He went out, after a while, and televised his divorced wife in Chicago.

"Jessie?"

"Hello," Jessie said. "What's up?"

"You heard about my golden robot?"

"Sure. Build as many as you want, as long as you keep on paying my alimony. What's this I hear about your hitting the skids?"

"Ffoulkes is behind that," Ballard said grimly. "If you want your alimony to continue, do me a favor. I want to register my robot in your name. Sign it over to you for a dollar. That way, I won't lose the robot even if there's a foreclosure."

"Is it that bad?"

"It's plenty bad. But as long as I've got the robot, I'm safe. It's worth several fortunes. I want you to sell the robot back to me for a dollar, of course, but we'll keep that document quiet."

"You mean you don't trust me, Bruce?"

"Not with a diamond-studded robot," Ballard said.

"Then I want two dollars. I've got to make a profit on the transaction. O. K. I'll attend to it. Send me the papers and I'll sign 'em."

Ballard broke the beam. That was done, anyhow. The robot was unequivocally his, and not even Ffoulkes could take it away from him.

Even if he went broke before the month was up and the new diamonds ready, the robot would put him on his feet again in no time. However, it was first necessary to catch Argus—

There were many telecalls that day. People wanted collateral. Brokers wanted margin covered. Ballard frantically juggled his holdings, liquidating, attempting flotations, trying to get loans.

He received a visit from two bulky men who made a business of supplying credit, at exorbitant rates.

They had heard of the robot. But they demanded to see it.

Ballard was gratified by their expressions. "What do you need credit for, Bruce? You've got plenty tied up in that thing."

"Sure. But I don't want to dismantle it. So you'll help me out till after the first—"

"Why the first?"

"I'm getting a new shipment of diamonds then."

"Uh-huh," said the taller of the two men. "That robot runs away, doesn't he?"

"That's why he's burglar-proof."

The two brokers exchanged glances. "Mind if we make a closer examination?" They went forward, and Argus fled.

Ballard said hastily, "Stopping him is rather a complicated process. And it takes time to start him again. Those stones are perfect."

"How do we know? Turn off the juice, or whatever makes the thing tick. You don't object to our making a closer examination, do you?"

"Of course not," Ballard said. "But it takes time—"

"I smell a rat," one of the brokers remarked. "You can have all the credit you want, but I insist on testing those diamonds. Call me when you're ready."

They both went out. Ballard cursed silently. The telescreen in the corner flickered. Ballard didn't bother to answer; he knew very well what the purport of the message would be. Collateral—

Ffoulkes was closing in for the kill.

Ballard's lips tightened. He glared at the robot, spun on his heel, and summoned his secretary. He issued swift orders.

The secretary, a dapper, youngish man with yellow hair and a perpetually worried expression, went into action. He, in turn, issued orders. People

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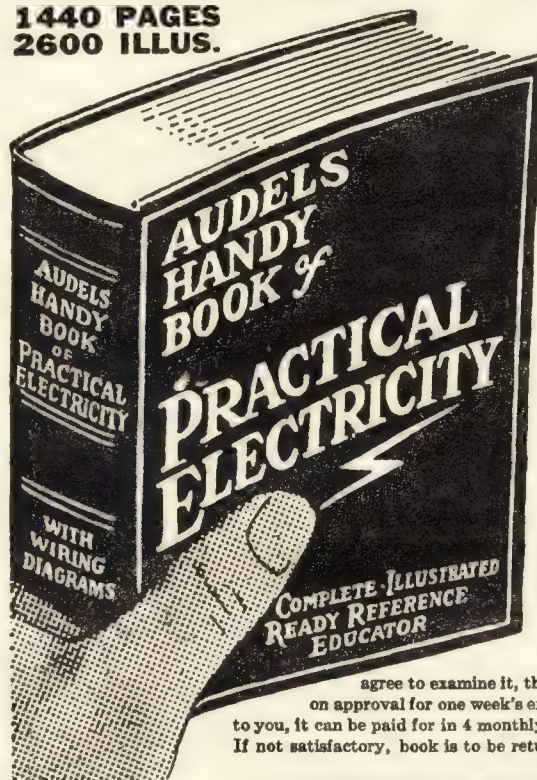
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began to come to the castle—workmen and technicians.

Ballard consulted with the technicians. None of them could suggest a certain method for immobilizing the robot. Yet they were far too optimistic. It didn't seem difficult to them to catch a machine.

"Flame throwers?"

Ballard considered. "There's an alloy casing under the gold plate."

"Suppose we can corner it long enough to burn through to the brain? That should do the trick."

"Well, try it. I can afford to lose a few diamonds if I can get my hands on the rest of 'em."

Ballard watched as six men, armed with flame throwers, maneuvered Argus into a corner. He warned them finally, "You're close enough. Don't go any nearer, or he'll break through you."

"Yes, sir. Ready? One . . . two—"

The nozzles blasted fire in unison. It took an appreciable time for the flame to reach the robot's head—some fractional part of a second, perhaps. By that time, Argus had ducked, and, safely under the flames, was running out of his corner. Crouching, he burst through the line of men, his alarm siren screeching. He fled into the next room and relapsed into contented immobility.

"Try it again," Ballard said glumly, but he knew it wouldn't work. It didn't. The robot's reactions were instantaneous. The men could not correct their aim with sufficient speed to hit Argus. A good deal of valuable furniture was destroyed, however.

The secretary touched Ballard's sleeve. "It's nearly two."

"Eh? Oh—that's right. Call the men off, Johnson. Is the trapdoor ready?"

"Yes, sir."

The robot suddenly turned and headed for a door. It was time for his first tour of the

castle that day. Since his route was prearranged and never swerved an iota from its course, it had been easy to set a trap. Ballard hadn't really expected the flame throwers to work, anyhow.

He followed, with Johnson, as Argus moved slowly through the ornate rooms of the castle. "His weight will spring the trapdoor, and he'll drop into the room below. Can he get out of that room?"

"No, sir. The walls are reinforced metal. He'll stay put."

"Fair enough."

"But . . . uh . . . won't he keep dodging around that room?"

"He may," Ballard said grimly, "till I pour quick-setting concrete in on him. That'll immobilize the so-and-so. It'll be easy after that to drill through the concrete and get the diamonds."

Johnson smiled weakly. He was a little afraid of the huge, glittering robot.

"How wide is the trap?" Ballard asked abruptly.

"Ten feet."

"So. Well, call the men with the flame throwers. Tell 'em to close in behind us. If Argus doesn't fall into the trap, we want to be able to drive him in."

Johnson hesitated. "Wouldn't he simply smash his way through the men?"

"We'll see. Put the men on both sides of the trap, so we'll have Argus cornered. Hop to it!"

The secretary raced away. Ballard followed the robot through room after room. Eventually Johnson and three of the flame-throwing crew appeared. The others had circled around to flank the robot.

They turned into the passage. It was narrow, but long. Half-way along it was the trapdoor, concealed by a rich Bokhara rug. In the distance Ballard could see three men waiting, flame throwers ready, watching as the robot approached them.

Within minutes now the trap would be sprung.

"Turn it on, boys," Ballard said, on a sudden impulse. The crew of three walking in front of him obeyed. Fire jutted out from the nozzles they held.

The robot increased its pace. It had eyes in the back of its head, Ballard remembered. Well, eyes wouldn't help Argus now. The rug—

A golden foot came down. The robot began to shift its weight forward, and suddenly froze as instantaneous reactions warned it of the difference in pressure between solid floor and trap. There was no time for the door to drop down, before Argus had instantly readjusted, withdrew his foot, and stood motionless on the verge of the rug. The flame throwers gushed out toward the robot's back. Ballard yelled a command.

The three men beyond the trapdoor began to run forward, fire spouting from their hoses. The robot bent its legs, shifted balance, and jumped. It wasn't at all bad for a standing broad jump. Since Argus could control his movements with the nicest accuracy, and since his metal body had strength in excess of his weight, the golden figure sprang across the ten-foot gap with inches to spare. Flame lashed out at him.

Argus moved fast—very fast. His legs were a blinding blur of speed. Ignoring the fire that played on his body, he ran toward the three men and through them. Then he slowed down to a normal walk and continued mildly on his way. The alarm siren was screaming Ballard realized, just as it died.

For Argus, the danger was over. Here and there on his metal body the gold had melted into irregular blobs. That was all.

Johnson gulped. "He must have seen the trap."

"He felt it," Ballard said, his voice low with fury. "Hell! If we could just immobilize Argus

long enough to pour concrete on him—"

That was tried an hour later. A metal-sheathed ceiling collapsed on the robot, a ceiling of mesh metal through which concrete could be poured. Ballard simply had liquid concrete run into the room above till the platform collapsed under the weight. The robot was below—

Was below. The difference in air pressure warned Argus, and he knew what to do about it. He lunged through a door and escaped, leaving a frightful mess behind him.

Ballard cursed. "We can't shoot concrete at the devil. If he's sensitized to differences in air pressure—hell! I don't know. There must be some way. Johnson! Get me Plastic Products, quick!"

A short while later Ballard was closeted with a representative of Plastic Products.

"I don't quite understand. A quick-drying cement—"

"To be squirted out of hoses, and to harden as soon as it hits the robot. That's what I said."

"If it dries that quickly, it'll dry as soon as air hits it. I think we've got almost what you want. A very strong liquid cementoid; it'll harden half a minute after being exposed to air."

"That should work. Yeah. How soon—"

"Tomorrow morning."

The next morning, Argus was herded into one of the huge halls downstairs. A ring of thirty men surrounded the robot, each armed with a tank, filled with the quick-drying cementoid. Ballard and Johnson watched from the side lines.

"The robot's pretty strong, sir," Johnson hazarded.

"So's the cementoid.

Quantity will do it. The men will keep spraying the stuff on till Argus is in a cocoon. Without leverage he can't break out. Like a mammoth in a tar pit."

Johnson made a clicking noise with his lips. "That's an idea. If this shouldn't work, perhaps I—"

"Save it," Ballard said. He looked around at the doors. Before each one was stationed a group of men, also armed with cementoid tanks.

In the center of the room stood Argus, blankly impassive, waiting. Ballard said, "O. K.," and from thirty positions around the robot streams of cementoid converged on his golden body.

The warning siren screamed deafeningly. Argus began to turn around.

That was all. He kept turning around. But—fast!

He was a machine, and could develop tremendous power. He spun on his longitudinal axis, a blazing, shining, glittering blur of light, far too fast for the eye to follow. He was like a tiny world spinning through space—but a world has gravitation. Argus' gravitational pull was

negligible. There was, however, centrifugal force.

It was like throwing an egg into an electric fan. The streams of cementoid hit Argus, and bounced, repelled by the centrifuge. Ballard got a gob of the stuff in his middle. It had hardened enough to be painful.

Argus kept on spinning. He didn't try to run, this time. His alarm kept screeching deafeningly. The men, plastered with cementoid, continued to squirt the stuff at Argus for a while.

But the cementoid stuck to them when it was flung back. It hardened on them. Within seconds the scene resembled a Mack Sennett pie-throwing comedy.

Ballard roared commands. His voice went unheard in the uproar. But the men did not continue their hopeless task for long. They, not Argus, were becoming immobilized.

Presently the warning siren stopped. Argus slowed down in his mad spinning. He was no longer the target of cementoid streams.

He went quietly out of the room, and nobody tried to stop him.

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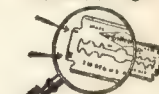
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4. CLEAN BLADE in razor by loosening handle, then rinsing in hot water and shaking. Wiping the blade is likely to damage the edges

fore the hardened cementoid could be dislodged from his mouth and nostrils. Aside from that, there were no casualties, save to Ballard's temper.

It was Johnson who suggested the next experiment. Quicksand would immobilize anything. It was difficult to introduce quicksand into the castle, but a substitute was provided—a gooey, tarry mess poured into an improvised tank twenty-five feet wide. All that remained was to lure Argus into the quicksand.

"Traps won't work," Ballard said glumly. "Maybe stringing a wire to trip him—"

"I think he'd react instantly to that, too, sir," Johnson vetoed. "If I may make a suggestion, it should not be difficult to drive Argus into the pit, once he's maneuvered into a passage leading to it."

"How? Flame throwers again? He automatically reacts away from the most serious danger. When he came to the pit, he'd turn around and go the other way. Break right through the men."

"His strength is limited, isn't it?" Johnson asked. "He couldn't pass a tank."

Ballard didn't see the point immediately. "A midget tractor? Not too small, though—some of the castle's passages are plenty wide. If we got a tank just broad enough to fill the hall—a pistol that would drive Argus into the quicksand—"

Measurements were made, and a powerful tractor brought into the castle. It fitted the passage, leaving no room to spare—at least, not enough to accommodate the robot. Once Argus was driven into that particular passage, he could go only one way.

The tractor, at Johnson's suggestion, was camouflaged, so the robot's flight-conditioned brain would not recognize and consider it as a serious factor. But the machine was ready to roll into the passage instantly.

The trick would probably have

succeeded, had it not been for one difficulty. The consistency of the artificial quicksand had been calculated carefully. It had to be soft enough to drag the robot down, and stiff enough so that Argus would be helpless. The robot could walk safely under water; that had been proved days ago, in an abortive early experiment.

So the mix had surface tension, though not enough to bear Argus' great weight.

The robot was maneuvered into the passage without trouble, and the tractor swung after it, blocking Argus' escape. It rumbled slowly on, driving the robot before it. Argus seemed untroubled. When he reached the edge of the artificial quicksand, he bent and tested the consistency with one golden hand.

After that, he lay flat on his face, legs bent like a frog's, feet braced against one wall of the passage, head pointed out over the quicksand. He thrust strongly.

Had Argus walked into the goo feet first, he would have sunk. But his weight was spread over a far larger surface area now. Not enough to sustain him indefinitely, but long enough for his purposes. He simply didn't have time to sink. Argus skimmed over the quicksand like a skiff or a sandboat. His powerful initial thrust gave him sufficient impetus. No human could have done it, and, while Argus weighed more than a human, he had also had more strength.

So he shot out, angling across the tank, buoyed by surface tension and carried on by his impetus. The quicksand got hold at last and bogged him down, but by that time Argus' powerful hands reached their destination, the edge of the tank. Another door was in the wall at that point, and Ballard and Johnson were standing on the threshold, watching.

They dodged before Argus trampled them in his automatic

flight-reaction away from the quicksand tank.

The robot dripped goo over a dozen valuable rugs before he dried. But after that he was no longer so dazzling a spectacle. However, his abilities were unimpaired.

Ballard tried the quicksand trick again, with a larger tank and smooth walls, on which the robot could get no grip. Yet Argus seemed to learn through experience. Before entering a passage now, he would make certain that there were no tractors within reach. Ballard concealed a tractor in an adjoining room, where Argus could not see it, and the robot was induced to go into the fatal passage; but he ran out again the moment the tractor clanked into movement. Argus had an excellent sense of hearing.

"Well—" Johnson said doubtfully.

Ballard moved his lips silently. "Eh? Get that stuff from the quicksand washed off Argus. He's supposed to be a show-piece!"

Johnson looked after Ballard's retreating figure. His eyebrows lifted quizzically.

Ballard had a tough session with the televisor. His enemies were closing in from all sides. If only the end of the month would come, when he could get the new diamonds! His holdings were falling in ruin around him. And that damned robot held the key to—everything!

He gave such orders as he could and wandered upstairs, to Argus' room. The robot, newly cleansed, stood by the window in a blaze of sunlight, a figure of fantastic beauty. Ballard noticed his own reflection in a nearby mirror. Instinctively he drew himself up.

It was a singularly futile gesture. The silent presence of Argus was like a rebuke. Ballard looked at the robot.

"Oh, damn you!" he said. "Damn you!"

Through the visor the impassive face of Argus ignored him. A whim had made Ballard shape the robot to resemble a knight. Somehow the idea seemed less satisfactory now.

Ballard's long-suppressed inferiority complex was suffering badly.

The golden knight stood there, towering, beautiful, mighty. There was dignity in its silence. It was a machine, Ballard told himself, merely a machine that man had made. He was certainly better than a machine.

But he wasn't.

Within its specialized limits, the robot had greater intelligence than his own. It had security, for it was invulnerable. It had wealth—it was wealth, a Midas without the Midas curse. And it had beauty. Calm, huge, utterly self-confident, Argus stood ignoring Ballard.

If Ballard could have destroyed the robot then, he might have done so. If only the damned thing wouldn't ignore him! It was wrecking his life, his power, his empire—and doing so unconsciously. Malice and hatred Ballard could have faced; as long as a man is important enough to be hated, he is not a cipher. But, to Argus, Ballard simply did not exist.

The sunlight blazed yellow from the golden cuirass. The diamonds sent out rainbow rays into the still air of the room. Ballard did not realize that his lips had drawn back into a snarling rictus—

After that events moved swiftly. The most notable was the impounding of the castle, a result of Ballard's avalanching economic collapse. He had to move out. Before he did so, he risked opening the annealing chamber on the new diamonds, a week before the process was finished. The result was worthless carbon. But Ballard could not have waited a week, for by that time the castle and all it contained would have been out of his possession.

Except the robot. That was still his own—or, rather, it belonged technically to his divorced wife. The documents he and Jessica had signed were thoroughly waterproof and legal. Ballard secured a court judgment; he was permitted to enter the castle and take away the robot at any convenient time. If he could find a way of immobilizing Argus long enough to dismantle the creature.

In time he might hit on a way. Maybe. Maybe—

Ffoulkes summoned Ballard to a conference, superficially a luncheon engagement. For a time Ffoulkes talked of casual matters, but there was a sardonic gleam in his eyes.

At last he said, "How are you getting on with that robot of yours, Bruce?"

"All right." Ballard was wary. "Why?"

"The castle's impounded, isn't it?"

"That's right. But I can get the robot whenever I like. The court ruled in my favor—special circumstances."

"Think you can catch the thing. I don't. Gunther was a smart man. If he made that robot invulnerable. I'll bet you won't be able to get your hands on it. Unless you know the key phrase, of course."

"I—" Ballard stopped. His eyes changed. "How'd you know—"

"That there was a code? Gunther phoned me just before he . . . ah . . . met his unfortunate accident. He suspected you were going to kill him. I don't know the ins and outs of the thing, but I got a telecall from him that night. All he said was to tell you what the key code was—but not to tell you till the right time. Gunther was pretty farsighted."

"You know the code?" Ballard said, his voice expressionless.

Ffoulkes shook his head. "No."

"Just what do you mean?"

"Gunther said this: 'Tell Bal-

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lard that the key code is what he finds on the wire tape—the name and number of the patent for making artificial diamonds.”

Ballard looked at his fingernails. The wire tape. The secret he had found only by tricking and killing Gunther. Only in his mind now did that information exist—“McNamara, Torsion Process, Patent No. R-737-V-22.”

And Gunther must have keyed the robot to that chain of phrases before he died.

“Finished?” Ffoulkes asked.

“Yeah.” Ballard got up, crumpling his napkin.

“This is on me. . . . One more point, Bruce. It would be distinctly to my advantage if diamonds became valueless. I’ve sold out all my diamond holdings, but plenty of my competitors have interests in the African mines. If the bottom falls out of the market, I can do some good for myself.”

“Well?”

“Would you tell me that patent number?”

“No.”

“I thought not,” Ffoulkes said, sighing. “Well, good-by.”

Ballard commandeered a truck, well armored, and hired a dozen guards. He drove out to the castle. The officer at the gate nodded agreeably.

“Want to go in, sir?”

“Yes. I have permission—”

“I know that, sir. Go right ahead. You’re after your robot?”

Ballard didn’t answer. The castle, after he had entered, seemed strange to him. Already there had been alterations, rugs removed, pictures stored, furniture carried away. It was no longer his.

He glanced at his watch. Five after two. Argus would be making his rounds. The great hall—

Ballard headed for it. He caught sight of the golden robot emerging into the hall and beginning its slow circuit. Two men followed it, just beyond the field of reaction. They were police guards.

Ballard walked toward them. “I’m Bruce Ballard.”

“Yes, sir.”

“What . . . what the devil! Aren’t you Dangerfield? Ffoulkes’ chief of staff? Wh—”

Dangerfield’s blank face didn’t change expression. “I’ve been sworn in as special deputy. The authorities consider your robot too valuable to be left unguarded. We’re detailed to keep an eye on it.”

Ballard didn’t move for a moment. Then he said, “Well, your job’s finished. I’m taking the robot away.”

“Very well, sir.”

“You can leave.”

“Sorry, sir. My orders were not to leave the robot unguarded for a moment.”

“Ffoulkes gave you those orders,” Ballard said, his voice not quite under control.

“Sir?”

Ballard looked at the other guard. “Are you Ffoulkes’ man, too?”

“Sir?”

Dangerfield said, “You’re quite free to remove your robot whenever you wish, but until it’s out of the castle, we mustn’t take our eyes off those diamonds.”

They had, as they talked, been following Argus. Now the robot moved on into the next hall and commenced its slow circuit. Ballard ran around in front of the creature. Covering his lips with one hand, he whispered, “McNamara, Torsion Process, Patent No. R-737-V-22.”

The robot kept on walking. Dangerfield said, “You’ll have to say it louder, won’t you?”

He was holding a little notebook and stylo.

Ballard stared at the other for a moment. Then he ran in toward Argus, beginning to whisper the code phrase again. But the robot instantly fled till it was beyond Ballard’s triggering nearness.

He couldn’t get close enough to whisper the code. And if he said it loudly enough for Argus to hear, Dangerfield was ready

to carry the formula to Ffoulkes. What Ffoulkes would do was obvious—publicize the process, so that the bottom would fall out of the diamond market.

The trio moved on, leaving Ballard where he was. Could there be a way out? Was there any way of trapping the robot?

The man knew that there was none—none he could employ in a house no longer his own. With power and wealth, he might eventually figure out a way. But time was important.

Even yet, he could re-establish himself. A month from now he could not. By that time the strings of empire would have passed forever from his hands. Frantically his mind doubled back on its tracks, seeking escape.

Suppose he used the process to make more diamonds?

He might try. But he was no longer Bruce Ballard, the robber baron. He did not have the invulnerability of the very wealthy. Ffoulkes could have him shadowed, could trace his every movement. There was no possibility of secrecy. Whatever he did from now on would be an open book to Ffoulkes. So, if he made more diamonds, Ffoulkes' men would discover the method. There was no escape that way.

Escape. So easy for the robot. He had lost invulnerability, but the robot was invulnerable. He had lost wealth; Argus was Midas. His intelligence could not help him now in this greatest crisis of his life. For an insane moment he wondered what Argus would do in his place—Argus whose infallible metal brain was so far superior to the brain that had brought it into being.

But Argus would never be in this position—Argus cared for nothing on Earth but Argus' own magnificent golden hide, studded with flashing glory. Even now he was stalking on his way

through the castle, uncaring and unheeding.

Ballard drew an unsteady breath and went down to the cellar, where he found a heavy sledge hammer. After that he went up to look for Argus.

He found him in the dining hall, moving with a slow, majestic tread as light from the windows slid softly over his golden mail, splintered into rainbows from his jewels.

Ballard was sweating, though not with exertion. He got in front of Argus and said, "Stop right there, you—" He called the robot an unprintable name.

Argus moved to circle him. Ballard in a clear, carrying voice said, "McNamara, Torsion Process, Patent No. R-737-V-22."

Dangerfield's stylo moved swiftly. The robot stopped. It was like stopping some inexorable force of nature, as if an avalanche had halted halfway down a mountain. In the unnatural silence Ballard heard the other guard ask:

"Got it?"

"Yeah," said Dangerfield. "Let's go."

They went out. Ballard hefted the sledge. He walked toward Argus on the balls of his feet. Argus towered over him, serene and blind.

The first blow sent diamonds showering and flashing, gouged gold from the robot's massive chest. With tremendous dignity Argus rocked backward from the blow. The thunder of his fall echoed through the silent hall.

Ballard lifted the sledge and brought it down again. He couldn't break through the almost impermeable casing beneath the gold plate, of course, nor crush the gems, but his furious blows ripped diamonds free and tore great furrows and gouges in the golden armor.

"You... damned... machine!" Ballard shouted, wielding the sledge in a blind, clamorous fury of meaningless destruction. "You... damned... machine!"

THE END.

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Please rush me free the hard-hitting details about "Super Ju Jitsu." No obligation on my part.
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Guarantee Reserve LIFE INSURANCE COMPANY?

HERE IS PROOF THAT GUARANTEE
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\$5,897.83

For the 5 members of a laundry operator's family in Indiana, \$1.00 a month provides \$5,897.83 protection against travel accidental death, \$3,935.22 against auto accidental death and \$1,962.61 against ordinary or natural death. Get this remarkable low-cost policy for free inspection—find out how much life insurance your family can buy for only \$1.00 a month.



\$6,344.70

A U.S. Government clerk of Washington D.C. has insured 4 members of his family in one policy—with \$6,344.70 protection for travel accidental death, \$4,229.80 for auto accidental death and \$2,114.90 for natural or ordinary death. One dollar a month is all the policy costs him.



\$5,018.70

A Michigan farmer, his wife and 4 children (6 people in all) are insured in a single \$1.00 a month, Guarantee Reserve Family Policy for a total of \$5,018.70 against travel accidental death, \$3,345.80 against auto accidental death and \$1,672.90 against natural or ordinary death. Take advantage of the Free Inspection offer and see this marvelous all-coverage policy.

SEND NO MONEY

**NO MEDICAL EXAMINATION—
 MEN, WOMEN, CHILDREN—AGES 1 TO 65**

By figuring separately the amount of life insurance on each individual of the family instead of bracketing them in age groups—the Guarantee Reserve Family Group Policy pays up to 50% more—in many cases double—the benefit provided by other similar life insurance policies. Yet the cost to you and your entire family is the same—Only \$1.00 a month. The amount of life insurance provided for each family varies according to the ages and number of family members insured. Mail the coupon to find out how much life insurance your family group gets for only \$1.00 a month. From 2 to 6 members of your family can be insured in this policy without medical examination. No Red Tape—No embarrassing questions—Take advantage of this free inspection offer without obligation.

**INCLUDES PARENTS, CHILDREN, BROTHERS,
 SISTERS, GRANDPARENTS, AND IN-LAWS**

As many as six who have an insurable interest can be included in this amazing low cost life insurance policy.

Relationship makes no difference in the amount of benefits paid. Each member of the family is given the maximum protection provided for his or her age in consideration with the number insured.

The policy was prepared by nationally known insurance experts to provide safe, reliable life insurance for entire family groups at a price everyone can afford to pay—Only \$1.00 a month.

Read the actual case histories here and you can see for yourself how much more you get for your money in this new kind of Family Group Policy.

Actually get a policy for free inspection showing you and your family what this policy will do for you. Send coupon for free inspection offer today.

**COMPARE WITH ANY OTHER
 FAMILY GROUP POLICY COSTING
 UP TO TWICE AS MUCH**

We want you to compare this policy and its benefits with any other family group policy you ever read about or heard about — and remember this policy is offered by a safe, reliable company with over \$15,000,000 of life insurance in force. Send the handy free inspection offer coupon so you can make this comparison — mail it to **GUARANTEE RESERVE LIFE INSURANCE COMPANY, Guarantee Reserve Bldg., Hammond, Indiana, Dept. 27-L2.**

MAIL THIS FREE OFFER COUPON!

Guarantee Reserve LIFE INSURANCE CO.
 GUARANTEE RESERVE BLDG., DEPT. 27-L2
 HAMMOND, INDIANA

Without cost or obligation send details of your new Family Group Policy and 10 Day Free Inspection Offer.

SPECIAL 10 DAY FREE OFFER!

This policy is sold by mail only... to save agents' salaries—medical expense—and collection costs. Get policy for 10 days. Read it—Decide for yourself—No Obligation.

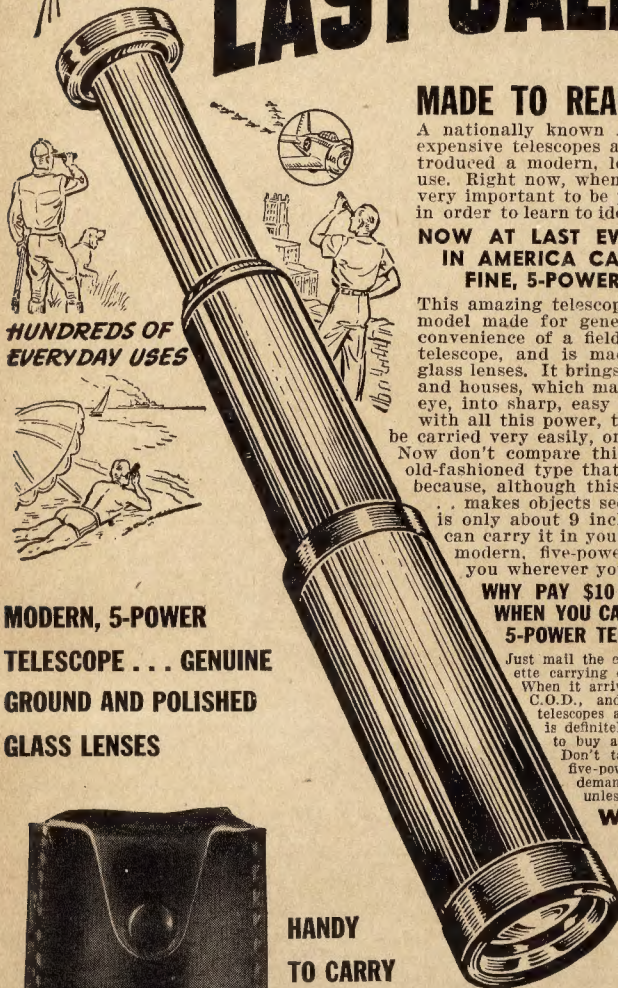
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**HANDY
TO CARRY
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**3/5 ACTUAL
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FREE If you act quickly, you get absolutely free, a beautiful leatherette carrying case, made especially for this modern telescope. This offer good only while our stock of cases lasts, so hurry and don't miss out!

**MILLER AND CO., Dept. 710,
225 N. Michigan Ave., Chicago, Ill.**

MADE TO READERS OF THIS MAGAZINE

A nationally known American manufacturer, who has sold expensive telescopes and lenses for many years, has just introduced a modern, low cost, 5-power telescope for civilian use. Right now, when the whole nation is on the alert, it is very important to be prepared. Everybody needs a telescope, in order to learn to identify high-flying airplanes, for instance.

NOW AT LAST EVERY MAN, WOMAN AND CHILD IN AMERICA CAN AFFORD TO OWN A REALLY FINE, 5-POWER PRECISION MADE TELESCOPE

This amazing telescope is the first really practical, low-cost model made for general use by civilians. It combines the convenience of a field glass with the power and range of a telescope, and is made with genuine ground and polished glass lenses. It brings people, airplanes, animals, birds, signs and houses, which may be far beyond the range of the naked eye, into sharp, easy vision. And the amazing thing is that with all this power, this fine telescope is still small enough to be carried very easily, on your belt, or in your pocket or purse. Now don't compare this modern telescope with the awkward old-fashioned type that pulled out two or three feet long . . . because, although this modern telescope is a full five power . . . makes objects seem five times as big as they are . . . it is only about 9 inches long when fully extended. And you can carry it in your pocket or purse. Send for one of these modern, five-power telescopes today and carry it with you wherever you go.

WHY PAY \$10 . . . \$15 FOR A PAIR OF FIELD GLASSES WHEN YOU CAN GET THIS POWERFUL, NEW COMPACT 5-POWER TELESCOPE FOR ONLY \$1.49.

Just mail the close-out coupon. Your telescope and free leatherette carrying case will reach you by mail in just a few days. When it arrives, you simply pay postman only \$1.49 plus tax, C.O.D., and handling charges. But hurry, folks, because telescopes are on the priorities list and further manufacture is definitely limited. Very soon now, it may not be possible to buy a new telescope of any kind on the open market. Don't take a chance on missing out. Remember, these five-power telescopes are being sold so rapidly and the demand is so great that we cannot guarantee delivery unless you send in your order at once.

WILL YOU INSPECT AT OUR RISK FOR 10 DAYS?

Send No Money. Just mail the coupon now, and after you receive your telescope, inspect it carefully . . . note how well it is made, how powerful it is, and then if you are not completely satisfied in every way, you can return it within 10 days and receive YOUR MONEY BACK for the asking. As long as the supply lasts you will also receive FREE, as a special gift, a leatherette carrying case. So mail coupon now!

MAIL THIS COUPON TODAY!

**MILLER AND CO., Dept. 710, 10-DAY TRIAL
225 N. Michigan Ave., Chicago, Ill. COUPON**

Please send me a 5-Power Telescope with free case. On arrival, I will deposit with postman \$1.49 plus tax, C.O.D., and handling charges, on the understanding that if I am not completely satisfied I can return telescope within 10 days and my money will be refunded without question.

☐ Money with Order (\$1.64 which includes Tax, and handling charges) and telescope comes Postpaid.

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The newest Lifetime is Sheaffer's "TRIUMPH," developed during the four-year period prior to the war and sold since the first of the year. Fortunately, practically all of the materials used in its manufacture are of the least critical type. What an essential gift to give or receive—now and for life!

Note: Fuel all pens carefully. Sheaffer's SKRIP is kind to the critical parts of pens, makes them write better and last longer.

W. A. Sheaffer Pen Co., Fort Madison, Ia.; Toronto, Ont., Can.

*All Lifetime pens are unconditionally guaranteed for the life of the first user except against loss and willful damage—when serviced, if complete pen is returned, subject only to insurance, postage, handling charge—35c.

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"MAGIC
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Bottle threads
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Regular Pkg., 15c.
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handy spreader
top, 25c



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